SLV-71HF/585HF/589HF/686HF

RMT-V102/V102A/V112

SERVICE MANUAL

US Model
SLV-585HF/686HF
Canadian Model
SLV-585HF/589HF/686HF
Taiwan Model
SLV-71HF
Mexican Model
SLV-686HF
PX Model
SLV-585HF

- Refer to the SERVICE MANUAL of VHS MECHANICAL ADJUSTMENTS II for MECHANICAL ADJUSTMENTS. (9-972-816-11)

VHS Hi-Fi

SPECIFICATIONS

System

Format	VHS NTSC standard
Video recording system	Rotary two-head helical scanning FM system
Video signal	EIA standard, NTSC color
Tape speed	SP: 33.35 mm/sec. (1 3/8 inches/second) EP: 11.11 mm/sec. (7/16 inches/second) LP: 16.67 mm/sec. (11/16 inches/second) Playback only
Maximum recording/ playback time	8 hours in EP mode (with T-160)
Fast-forward and rewind time	Approx. 4 min. 30 sec. (with T-120)
High speed rewind time	Approx. 2 min. 30 sec. (with T-120)

Tuner Section

Channel coverage	VHF channels 2 to 13 UHF channels 14 to 69 CATV channel A-8 to A-1, A to W, W+1 to W+84
Antenna	75 ohm antenna terminal for VHF/UHF

Inputs and Outputs

LINE IN 1 and 2	VIDEO IN (phono jack) (1 each) Input signal: 1 Vp-p, 75 ohms, unbalanced, sync negative AUDIO IN (phono jack) (2 each) Input level: –7.5 dBs (0 dBs = 0.775 Vrms) Input impedance: more than 47 kilohms
LINE OUT	VIDEO OUT (phono jack) (1) Output signal: 1 Vp-p, 75 ohms, unbalanced, sync negative AUDIO OUT (phono jack) (2) Standard output: –7.5 dBs at load impedance 47 kilohms Output impedance: less than 10 kilohms
CONTROL S IN	Minijack (1)

– Continued on next page –

MICROFILM

VIDEO CASSETTE RECORDER

SONY®

Timer Section

Clock	Quartz locked
Time indication	12-hour cycle
Timer setting	Only for recording 8 program in one month at max.
Power back up	Built-in self-charging capacitor Back-up duration: Up to three hours at one time

General

Power requirements	110V AC, 60 Hz (SLV-71HF) 120V AC, 50/60 Hz (SLV-686HF: MX) 110–240V AC, 50/60Hz (SLV-585HF: PX) 120V AC, 60 Hz (SLV-589HF: CND) 120V AC, 60 Hz (SLV-585HF/686HF: US/CND)
Power consumption	30W (max.) 34W (max.) (SLV-585HF: PX ONLY) 6W (in standby condition)
Operating temperature	5 ℃ to 40 ℃ (41 °F to 104 °F)
Storage temperature	–20 ℃ to 60 ℃ (–4 °F to 140 °F)
Dimensions	430 × 86 × 362 mm (w/h/d) (17 × 3 1/2 × 14 3/8 inches)
Weight	5.7 kg (12 lb, 9 oz)

Wireless Commander RMT-V102 (for SLV-585HF/589HF/71HF)/V102A (for SLV-686HF)

Remote control system	Infrared control
Command mode	VTR 1/2/3 switchable
Power requirements	3V DC, 2 size AA batteries (IEC designation R6)

Accessories Supplied

Wireless Commander RMT-V102 (for SLV-585HF/71HF)/V102A (for SLV-686HF)	(1)
Wireless Commander RMT-V112 (for SLV-589HF)	(1)
Size AA (R6) batteries	(2)
75-ohm coaxial cable with F-type connectors	(1)
External antenna connector	(1)
AC power cord	(1)
Audio/video connecting cable (3 phono to 3 phono)	(1)

Design and specifications are subject to change without notice.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT
À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

TABLE OF CONTENTS

Section Title Page

1. GENERAL

Connecting a TV 5
Preparing the Remote Commander 9
Setting the Data and Time 10
Presetting the Active Channels 11
Changing the Mode Setting 13
Playback 14
Recording TV Programs 17
Timer Recording 19
Variable Speed Playback 23
Index Function 24
Quick Timer Recording 26
Editing 27
Identifying the Parts and Controls 30

2. DISASSEMBLY

2-1. Removal of Front Panel and Cabinet Assemblies 33
2-2. Removal of MF-122, MF-123 or MF-142 Boards and Control Switch Block 33
2-3. Opening of CA-46 or CA-47 Board 34
2-4. Removal of TU-130, HF-23 and YC-112 Boards 34
2-5. Removal of FL Cassette Compartment Block Assembly 35
2-6. Removal of Mechanism Deck Block Assembly 35
2-7. Removal of RP-112 or RP-128 Board and Power Supply Block Assembly (PS-274 and OL-11 Boards) (SLV-585HF ; US, CND/ 686HF ; US, CND model only) 36
2-8. Removal of MA-82 Board 37
2-9. Internal Views 38

3. DIAGRAMS

3-1. Circuit Boards Location 39
3-2. Overall Block Diagram 40
3-3. Video Block Diagram 43
3-4. Servo/Syscon Block Diagram 47
3-5. System Control — Video Block Interface (SLV-585HF/589HF/71HF) 50
3-6. System Control — Servo Peripheral Circuit Interface (SLV-585HF/589HF/71HF) 51
3-7. System Control — Mechanism Block Interface (SLV-585HF/589HF/71HF) 53
3-8. System Control — System Control Peripheral Circuit Interface (SLV-585HF/589HF/71HF) 54
3-9. System Control — Audio Block Interface (SLV-585HF/589HF/71HF) 55
3-10. System Control — Tuner Block Interface (SLV-585HF/589HF/71HF) 57
3-11. System Control and RF Modulator — Input Selection Block Interface (SLV-585HF/589HF/71HF) 57
3-12. Servo/System Control — Microprocessor Terminal Function (MA-82 Board IC501) (SLV-585HF/589HF/71HF) 58
3-13. Timer/Mode Control — Microprocessor Pin Function (MA-122 Board IC801) (SLV-585HF/589HF/71HF) 60
Section Title Page
3-14. System Control — Video Block Interface (SLV-686HF) 63
3-15. System Control — Servo Peripheral Circuit Interface (SLV-686HF) 65
3-16. System Control — Mechanism Block Interface (SLV-686HF) 67
3-17. System Control — System Control Peripheral Circuit Interface (SLV-686HF) 69
3-18. System Control — Audio Block Interface (SLV-686HF) 70
3-19. System Control — Tuner Block Interface (SLV-686HF) 72
3-20. System Control and RF Modulator — Input Selection Block Interface (SLV-686HF) 72
3-21. Servo/System Control — Microprocessor Terminal Function (MA-82 Board IC501) (SLV-686HF) 73
3-22. Timer/Mode Control — Microprocessor Pin Function (MA-122 Board IC801) (SLV-686HF) 75
3-23. Audio Block Diagram 79
3-24. Tuner Block Diagram 84
3-25. Timer Mode Control Block Diagram 87
3-26. Power Block Diagram 89

4. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1. Frame Schematic Diagram 91
4-2. Printed Wiring Boards and Schematic Diagrams 94
- RP-112/128, DQ-6 Boards 95
- YC-112 Board 99
- MA-82 Board 104
- MD-49 Board 110
- CA-46/47 Board 116
- HF-23 Board 122
- TU-130 Board 127
- MF-122 Board 133
- MF-123/142 Board 138
- PS-274, OL-11, TR-61, TR-62 Boards 143

4-3. Semiconductors 148

5. EXPLODED VIEWS

5-1. Front Panel and Case Assemblies 150
5-2. Power Supply Block Assembly 152
5-3. Main Boards Assembly 154
5-4. FL Cassette Compartment Assembly 155
5-5. MD Chassis Assembly (1) 156
5-6. MD Chassis Assembly (2) 157
5-7. MD Chassis Assembly (3) 158

6. ELECTRICAL PARTS LIST 159

HARDWARE LIST 178

7. ELECTRICAL ADJUSTMENTS

7-1. Power Supply Check (PS-274 board)
(SLV-585HF/686HF : U/C Only) Power Block Check ···· 180
7-2. System Control/Timer System Adjustment ········ 181
  1. Clock adjustment (MF-122 board) ········ 181
7-3. Servo System Adjustment ········ 181
  1. Switching position adjustment (MA-82 board) ········ 181
7-4. Video Adjustment ········ 182
  1. Crystal oscillation frequency confirmation (YC-112 board) ········ 182
  2. Noise cancel (YC-112 board) ········ 182
  3. Playback Y signal level adjustment (YC-112 board) ········ 183
  4. Sync AGC adjustment (YC-112 board) ········ 183
  5. Sync tip carrier set and deviation adjustment (YC-112 board) ········ 183
  6. Recording chroma signal level adjustment (YC-112 board) ········ 184
  7. Y signal recording current adjustment (RP-112/128 board) ········ 184
7-5. Data Screen Adjustment ········ 184
  1. 4fsc clock confirmation (MA-82 board) ········ 184
  2. H sync pulse width adjustment (MA-82 board) ········ 184
  3. Character clock frequency confirmation (MA-82 board) ········ 185
7-6. Audio System Adjustment ········ 185
7-6-1. Hi-Fi Audio System Adjustment ········ 185
  1. VCO fo adjustment (HF-23 board) ········ 186
  2. Band-pass filter fo adjustment (HF-23 board) ········ 186
  3. Switching position adjustment (MA-82 board) ········ 187
  4. Hi-Fi/normal discrimination adjustment (MA-82 board) ········ 187
  5. Deviation adjustment (HF-23 board) ········ 187
  6. E-E output level confirmation (HF-23 board) ········ 188
  7. Overall level characteristic confirmation ········ 188
7-6-2. Normal Audio System Adjustment (CA-46/47 board) ········ 188
  1. ACE head adjustment ········ 188
  2. Playback output level check ········ 188
  3. E-E output level check (CA-46/47 board) ········ 188
  4. Recording bias adjustment (CA-46/47 board) ········ 189
  5. Overall level characteristic and distortion factor check ········ 189
  6. Overall S/N check ········ 189
7-7. Tuner System Adjustment ········ 190
7-7-1. RF AGC Adjustment (TU-130 board) ········ 190
7-7-2. Audio Multiple Recorder Adjustment ········ 190
  1. Stereo filter and VCO adjustment (TU-130 board) ········ 190
  1-1. Stereo filter adjustment ········ 190
  1-2. VCO adjustment ········ 190
  2. Separation adjustment (TU-130 board) ········ 191
  2-1. MPX input level rough adjustment ········ 191
  2-2. Separation rough adjustment ········ 191
  2-3. Separation fine adjustment ········ 191
7-8. Arrangement Diagram for Adjustment Parts ········ 192

SUPPLEMENT-1
SUPPLEMENT-2

SECTION 1
GENERAL

This section is extracted from instruction manual.

Connecting a TV

To be continued►

In order to watch the playback picture on the TV screen and to receive TV programs on this VCR, the VCR and the TV receiver must be connected properly. The connection between the two units varies depending upon the tape of TV receiver and antenna that you have. We will show you some typical ways to make connections. Before operating the unit, classify your TV for a connection by using the flow chart below, then make the correct connections.

Before making connections, check the following points

- Turn off the power to the VCR and the TV.
- Do not connect the AC power cords until all of the connections are completed.
- Make connections firmly. Loose connections may cause picture distortion.
- **If your TV does not match the three examples below...** Consult your nearest Sony dealer or qualified technician.

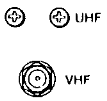
First Check Your TV For Connections

If your TV does not have video and audio input jacks
Check the antenna terminals on your TV

↓

75-ohm VHF/UHF antenna terminal

VHF and UHF separate antenna terminals



↓

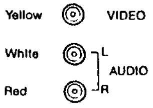
Go through "Connection Examples 1 to 4" on page 7 to 9 to find the appropriate connections.
For a cable TV connection, go to "Connection Example 5 on page 10".

↓

Then read "Setting the RF Unit" to view the playback picture of the VCR on the TV on page 13.

If your TV has video and audio input jacks

↓

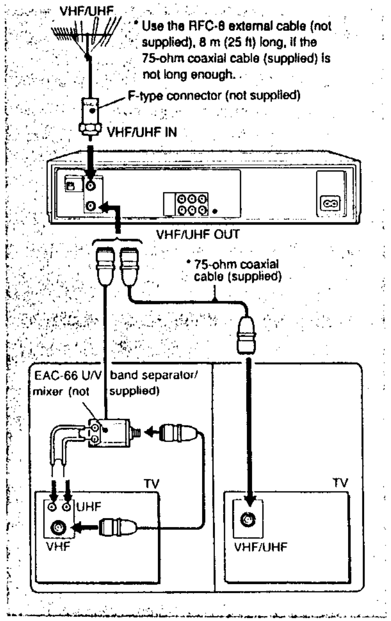

Yellow
VIDEO
White
L
AUDIO
Red
R

↓

You can enjoy a better quality picture by connecting the VCR and TV via these jacks.
Go to "Connection Example 6" on page 11.

Caution
Connections between the recorder VHF/UHF OUT connector and the antenna terminals of a TV receiver should be made only as shown in the instructions. Failure to do so may result in operation that violates the regulations of the Federal Never connect the output of the recorder to an antenna or make simultaneous (parallel) antenna and recorder connections at the antenna terminals of your receiver.

Connecting a Combination VHF/UHF Antenna — Connection Example 1

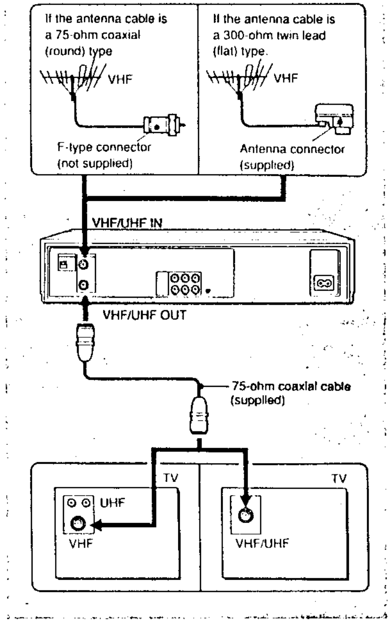

VHF/UHF
* Use the RFC-8 external cable (not supplied), 8 m (25 ft) long, if the 75-ohm coaxial cable (supplied) is not long enough.
F-type connector (not supplied)
VHF/UHF IN
VHF/UHF OUT
* 75-ohm coaxial cable (supplied)
EAC-66 U/V band separator/ mixer (not supplied)
TV
UHF
VHF
TV
VHF/UHF

1 **Disconnect the TV antenna cable from the TV receiver and connect it to the VCR.**

2 **Connect the VCR and the TV.**
If the TV has a single terminal for the VHF/UHF antenna:
Use the 75-ohm coaxial cable (supplied).
If the TV has separate antenna terminals for VHF/UHF:
Use the EAC-66 U/V band separator/mixer (not supplied).

How to attach the U/V band separator/mixer and the F-type connector
See pages 12 and 13.

Connecting a VHF Antenna Only — Connection Example 2


If the antenna cable is a 75-ohm coaxial (round) type
VHF
F-type connector (not supplied)
If the antenna cable is a 300-ohm twin lead (flat) type.
VHF
Antenna connector (supplied)
VHF/UHF IN
VHF/UHF OUT
75-ohm coaxial cable (supplied)
TV
UHF
VHF
TV
VHF/UHF

1 **Disconnect the TV antenna cable from the TV and connect it to the VCR.**
If the antenna cable is a 75-ohm coaxial (round) type:
Use the F-type connector (not supplied).
If the antenna cable is a 300-ohm twin lead (flat) type:
Use the antenna connector (supplied).

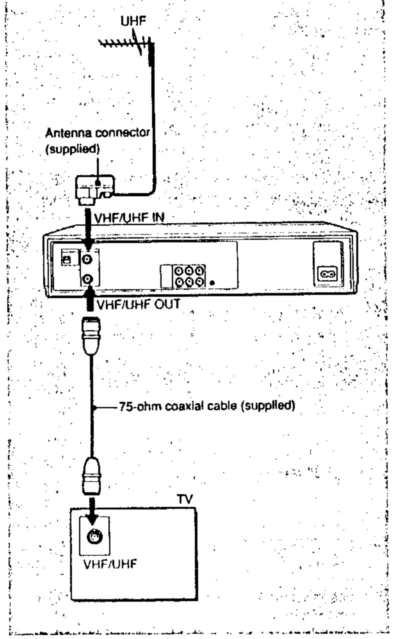
2 **Connect the VHF/UHF OUT on the VCR and the VHF IN terminal on the TV with the 75-ohm coaxial cable (supplied).**

How to attach the antenna connector and the F-type connector
See pages 12 and 13.

To be continued ▶

Connecting a UHF Antenna Only — Connection Example 3

A When the VHF/UHF antenna terminal on the TV is combined


UHF
Antenna connector (supplied)
VHF/UHF IN
VHF/UHF OUT
75-ohm coaxial cable (supplied)
TV
VHF/UHF

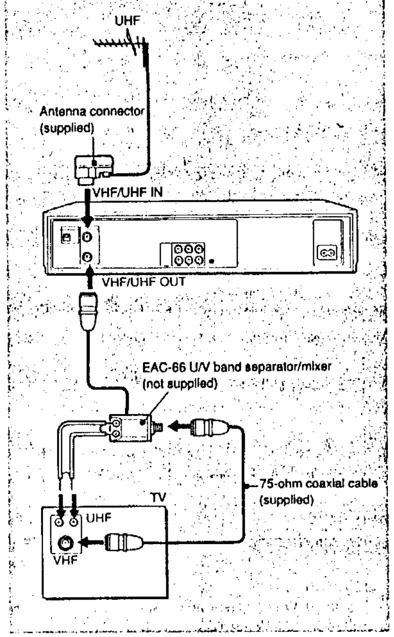
1 Connect the antenna connector (supplied) to the antenna cable.

2 Connect the antenna connector to VHF/UHF IN on the VCR.

3 Connect VHF/UHF OUT on the VCR and the VHF/UHF antenna terminal on the TV.

How to attach the antenna connector
See pages 12 and 13.

B When the VHF/UHF antenna terminal on the TV are separated


UHF
Antenna connector (supplied)
VHF/UHF IN
VHF/UHF OUT
EAC-66 U/V band separator/mixer (not supplied)
75-ohm coaxial cable (supplied)
TV
UHF
VHF

1 Connect the antenna connector (supplied) to the antenna cable.

2 Connect the antenna connector to VHF/UHF IN on the VCR.

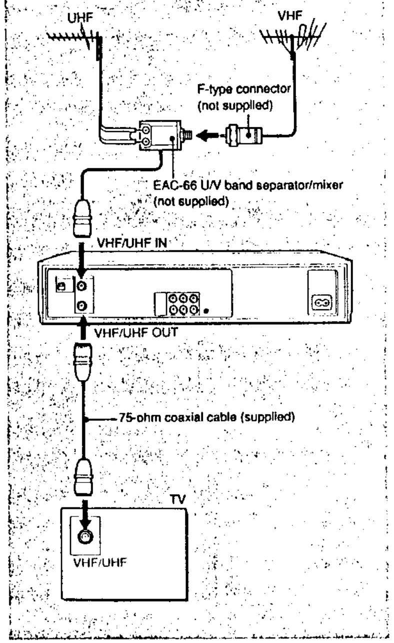
3 Connect the EAC-66 U/V band separator/mixer (not supplied) to the VHF/UHF OUT on the VCR.

4 Connect the EAC-66 U/V band separator/mixer to the VHF and UHF antenna terminals on the TV.

How to attach the antenna connector and the U/V band separator/mixer
See pages 12 and 13.

Connecting both the VHF and UHF Antennas — Connection Example 4

A When the VHF/UHF antenna terminal on the TV is combined


UHF
VHF
F-type connector (not supplied)
EAC-66 U/V band separator/mixer (not supplied)
VHF/UHF IN
VHF/UHF OUT
75-ohm coaxial cable (supplied)
TV
VHF/UHF

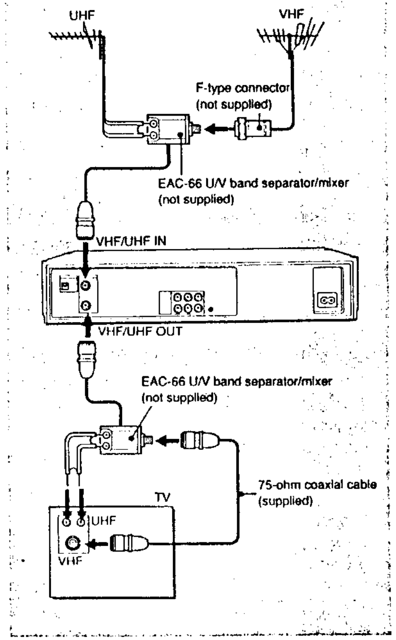
1 Connect the EAC-66 U/V band separator/mixer (not supplied) to the VHF and UHF antennas.

2 Connect the EAC-66 U/V band separator/mixer to the VHF/UHF IN on the VCR.

3 Connect VHF/UHF OUT on the VCR and the VHF/UHF antenna terminal on the TV.

How to attach the U/V band separator/mixer and the F-type connector
See pages 12 and 13.

B When the VHF/UHF antenna terminals on the TV are separated


UHF
VHF
F-type connector (not supplied)
EAC-66 U/V band separator/mixer (not supplied)
VHF/UHF IN
VHF/UHF OUT
EAC-66 U/V band separator/mixer (not supplied)
75-ohm coaxial cable (supplied)
TV
UHF
VHF

1 Connect the EAC-66 U/V band separator/mixer (not supplied) to the VHF and UHF antennas.

2 Connect the EAC-66 U/V band separator/mixer to the VHF/UHF IN on the VCR.

3 Connect the EAC-66 U/V band separator/mixer to the VHF/UHF OUT on the VCR.

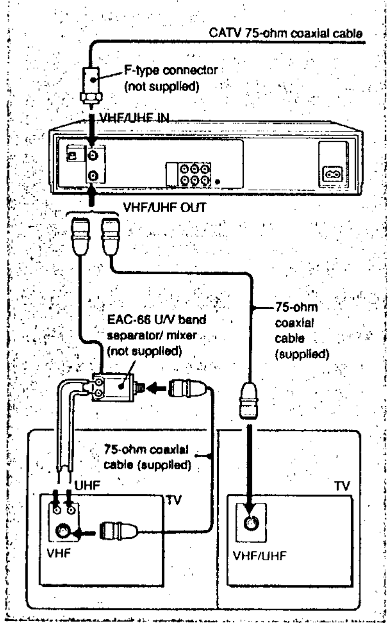
4 Connect the EAC-66 U/V band separator to the VHF and UHF antenna terminals on the TV.

How to attach the U/V band separator/mixer and the F-type connector
See pages 12 and 13.

To be continued ►

Connecting a Cable TV System — Connection Example 5

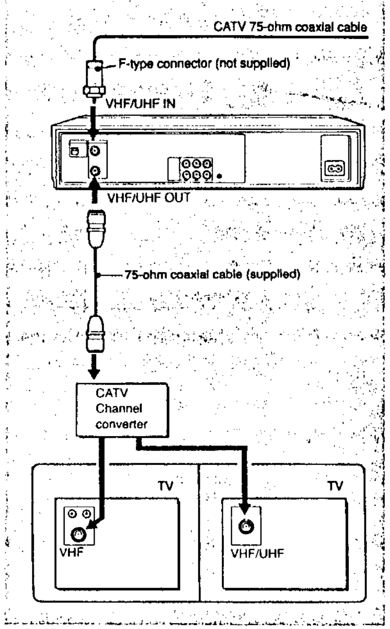
A ***If your TV has a built-in CATV decoder***


CATV 75-ohm coaxial cable
F-type connector (not supplied)
VHF/UHF IN
VHF/UHF OUT
EAC-66 U/V band separator/ mixer (not supplied)
75-ohm coaxial cable (supplied)
75-ohm coaxial cable (supplied)
UHF
TV
VHF
TV
VHF/UHF

A connection example is given above, but we recommend that you consult your cable company to make sure that the cable is properly connected.

How to attach the U/V band separator/mixer and the F-type connector
See pages 12 and 13.

B ***If your TV does not have a built-in CATV decoder***


CATV 75-ohm coaxial cable
F-type connector (not supplied)
VHF/UHF IN
VHF/UHF OUT
75-ohm coaxial cable (supplied)
CATV Channel converter
TV
VHF
TV
VHF/UHF

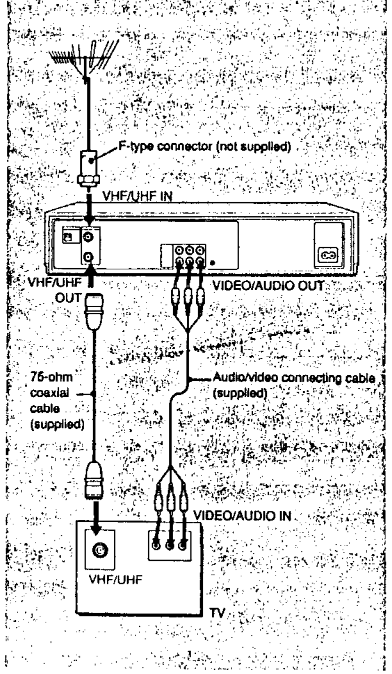
Connect the cable TV channel converter between the TV and the VCR. By setting the ANT TV/VTR switch to TV, you can watch a cable TV program while playing back or recording video sources using the VIDEO LINE IN jack on the VCR.

How to attach the F-type connector
See page 12.

Note to CATV system installer in the U.S.A.
This reminder is provided to call the cable TV system installer's attention to Article 820-22 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

Connecting a TV Equipped with Video/Audio Input Jacks — Connection Example 6

If your TV is a stereo type


F-type connector (not supplied)
VHF/UHF IN
VHF/UHF OUT
VIDEO/AUDIO OUT
75-ohm coaxial cable (supplied)
Audio/video connecting cable (supplied)
VIDEO/AUDIO IN
VHF/UHF
TV

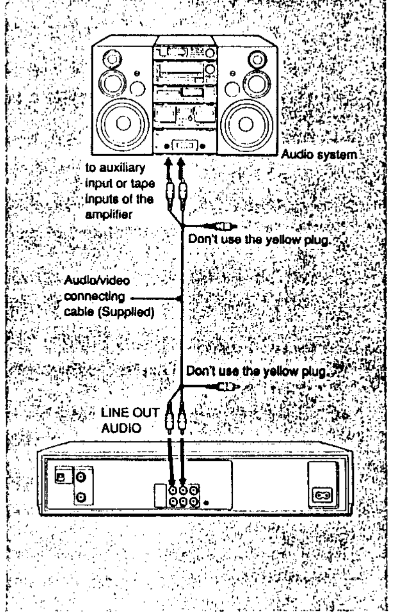
For a higher quality picture, connect a color monitor or a TV equipped with video/audio input jacks.

1. **Connect the VHF/UHF antenna to the VHF/UHF IN on the VCR.**
2. **Connect the VHF/UHF OUT on the VCR and the VHF/UHF IN terminal on the TV with the supplied 75-ohm coaxial cable.**
3. **Connect the LINE OUT jacks on the VCR to the video/audio line input jacks on the TV with the supplied audio/video connecting cable.**

How to attach the F-type connector
See page 12.

Listening to the hi-fi stereo sound of the tapes from your audio system

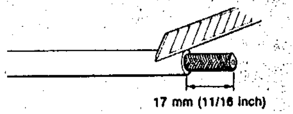
When you connect a TV following connection examples 1 through 5, you can listen to the hi-fi stereo sound of the tapes from your audio system by connecting the VCR to an audio system.


Audio system
to auxiliary input or tape inputs of the amplifier
Don't use the yellow plug.
Audio/video connecting cable (Supplied)
Don't use the yellow plug.
LINE OUT AUDIO

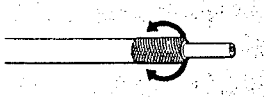
Notes
If the VCR is installed near a tuner or a radio, noise may be heard in AM reception. In this case, move the VCR away from the tuner or the radio, adjust the AM antenna for minimum noise, or connect an external AM antenna to the tuner.
- Before connecting or disconnecting the power cord of the VCR, be sure to turn off the connected amplifier.

How to Attach the F-type Connector (not supplied)

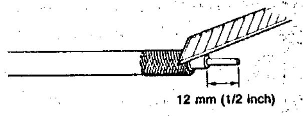
1 **Strip 17 mm (11/16 inch) of the black polyvinyl jacket.**



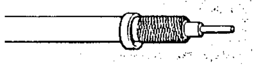
2 **Fold back the woven wire.**



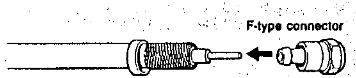
3 **Strip 12 mm (1/2 inch) of the white plastic leaving 12 mm of the center conductor.**



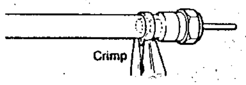
4 **Slip the crimping ring over the cable.**



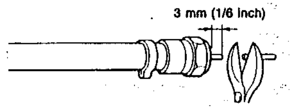
5 **Insert the inner conductor into the F-type connector shaft and push the end of the cable into the connector as far as it will go.**



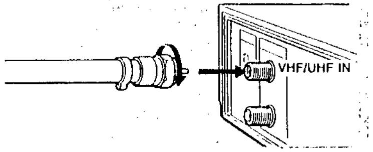
6 **Slide the crimping ring over this assembly. Then pinch the crimping ring with pliers to hold the connection in place.**



7 **Cut the center conductor leaving 3 mm (1/6 inch) from the end.**



8 **Insert the F-type connector into VHF/UHF IN on the VCR.**

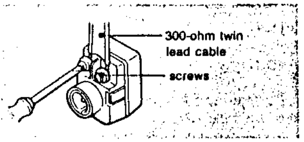


How to Attach the External Antenna Connector (supplied)

1 **Loosen the screws on the antenna connector.**

2 **Fit the 300-ohm twin lead cable on the UHF antenna under the screws on antenna connector.**

3 **Tighten the screws again.**



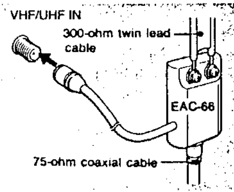
How to Attach the EAC-66 U/V Band Separator/Mixer (not supplied)

1 **Loosen the screws on the U/V band separator/mixer.**

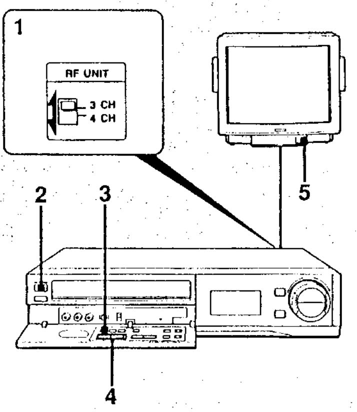
2 **Fit the 300-ohm twin lead cable on the UHF antenna under the screws.**

3 **Connect the 75-ohm coaxial cable to the U/V band separator/mixer.**

4 **Connect the U/V band separator/mixer to the VHF/UHF IN on the VCR.**



Setting the RF Unit



Why this setting is necessary
Your TV receiver must be set to receive the signal from your VCR. To get the proper RF signal, set the RF UNIT selector switch on the rear panel of the VCR. If channel 4 is active in your area, set the switch to 3 CH, and vice-versa. If you connect a color monitor or a TV equipped with video/audio input jacks, you do not need to make this setting.

1 **Set the RF UNIT at the rear of the VCR to 3 CH or 4 CH, whichever is not active in your area.**

2 **Press POWER.**
The indicator will light.

3 **Press ANT TV/VTR so that the VTR indicator lights.**

4 **Check that the TUNER indicator appears in the display window, then select an active channel in your area by pressing CHANNEL +/–.**

5 **Turn on the TV and set the TV to the channel selected in step 1.**
The TV program selectd on the VCR will appear on the screen.

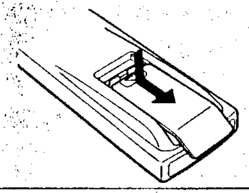
Your TV is now tuned to the VCR. Whenever you use the VCR, set the TV to the channel selected above.

Note
For details about TV channel adjustment, see the instruction manual of the TV.

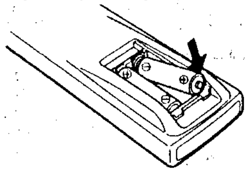
Preparing the Remote Commander

Inserting Batteries

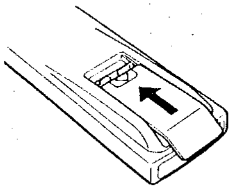
1 Open the lid.



2 Insert two size AA (IEC designation R6) batteries with the polarity lined up correctly.



3 Close the lid.

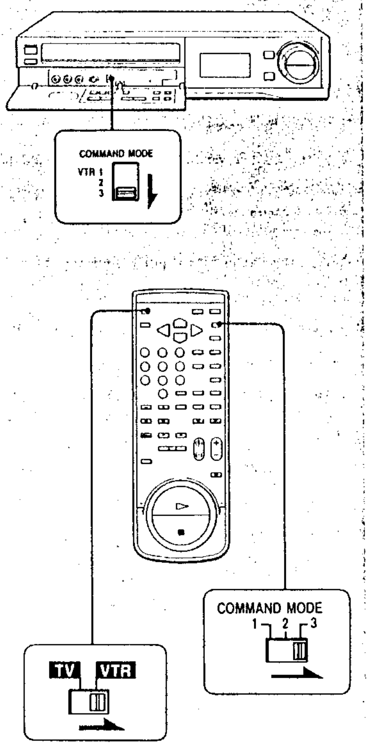


Notes on the handling of batteries

- With normal use, the batteries will last for approximately 6 months.
- If you do not use the Commander for a long period of time, remove the batteries to avoid possible damage from battery leakage.

Setting the Command Mode

You can select three different setting positions for Command Mode setting.



1 Set the COMMAND MODE VTR 1/VTR 2/VTR 3 selector on the VCR to the "VTR 3" position.

2 Set the COMMAND MODE 1/2/3 selector on the Remote Commander to the "3".

3 Set the TV/VTR remote control selector to VTR.

Controlling Other Sony Video Equipment

If other Sony video equipment has a COMMAND MODE selector

1 With the COMMAND MODE 1/2/3 selector on the Remote Commander, select a setting position (for instance, VTR 1) different from the position you have selected for this VCR.

2 Set the COMMAND MODE selector of other video equipment to the same position that you have selected in step 1.

If other Sony video equipment does not have a COMMAND MODE selector

You can control other Sony video equipment by changing the setting of the COMMAND MODE 1/2/3 selector on the Remote Commander as follows:

Infrared remote controlled Sony Betamax VCRs (Some of them may not be controlled in this mode.) *1

Sony 8 mm format VCRs *2

Sony VHS format VCRs *3

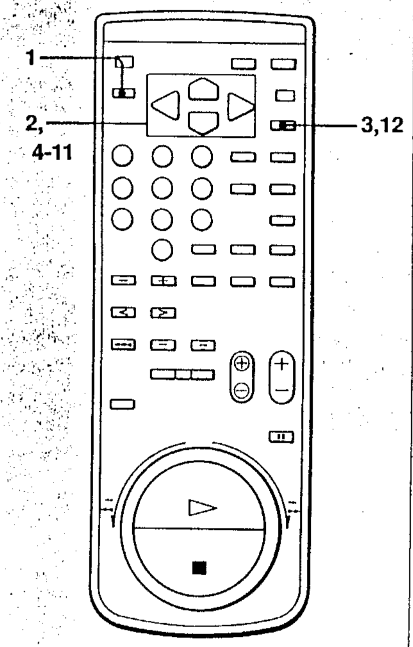
Setting the Date and Time

You can set the date and clock on the TV screen with the Commander. Note that 12:00 AM is midnight and 12:00 PM is noon.

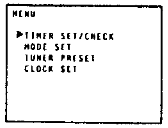
Date and Time Setting Example

Example: To set to 3:32 pm, July 4, 1991

Use ▲ and ▼ to change the numbers.
Use ◀ and ▶ to change the flashing items.

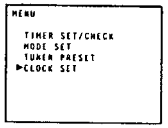


1 **Press MENU.**
The main menu appears.



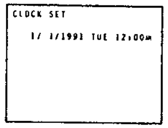
MENU
▶TIMER SET/CHECK
MODE SET
TUNER PRESET
CLOCK SET

2 **Press ▲ or ▼ to move cursor (▶) to CLOCK SET.**



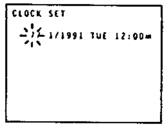
MENU
TIMER SET/CHECK
MODE SET
TUNER PRESET
▶CLOCK SET

3 **Press EXECUTE.**
"1/1 1991 TUE 12:00 AM" is displayed.
The left most 1, in the "month" position, flashes.



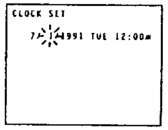
CLOCK SET
1/ 1/1991 TUE 12:00AM

4 **Press ▲ or ▼ until 7 appears in the month position.**



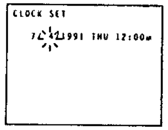
CLOCK SET
7/ 1/1991 TUE 12:00AM

5 **Press ▶ to make the next number, in the "day" position flash.**



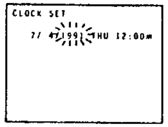
CLOCK SET
7/ 1/1991 TUE 12:00AM

6 **Press ▲ or ▼ until 4 appears in the day position.**
The day of the week is automatically set.



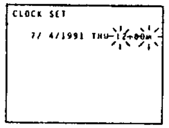
CLOCK SET
7/ 4/1991 THU 12:00AM

7 **Press ▶ to make the year flash and press ▲ to change the year if necessary.**



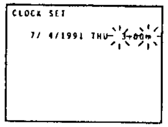
CLOCK SET
7/ 4/1991 THU 12:00AM

8 **Press ▶ to make the time flash.**



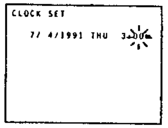
CLOCK SET
7/ 4/1991 THU 12:00AM

9 **Press ▲ or ▼ until 3 PM appears.**



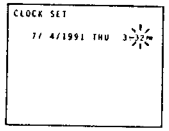
CLOCK SET
7/ 4/1991 THU 3:00PM

10 **Press ▶ to make the minute flash.**



CLOCK SET
7/ 4/1991 THU 3:00PM

11 **Press ▲ or ▼ until 32 appears in the minute position.**



CLOCK SET
7/ 4/1991 THU 3:32PM

12 **Press EXECUTE simultaneously with a time signal.**
Pressing EXECUTE will set the clock to 3:32 pm 00 seconds.

To recall the date and clock on the screen
Select CLOCK SET in the main MENU and press EXECUTE.

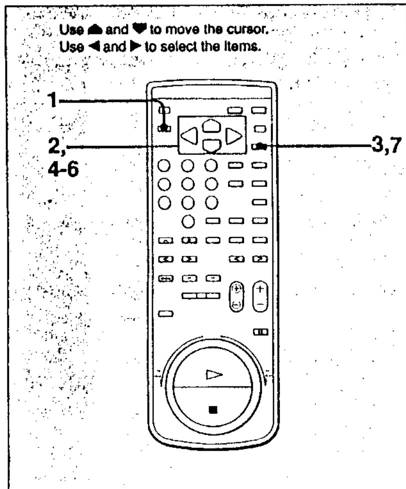
Notes
- Set the clock except during timer-activated recording, timer-activated recording standby, quick timer recording.
- When the date and clock are called up on the screen, the clock keeps running as long as no modification is made.
  The seconds do not be reset to 00 when you return to the original screen.

Presetting the Active Channels

This VCR is capable of receiving VHF channels 2 to 13, UHF channels 14 to 69, or CATV channels 1 to 125. These channels can be preset using the Commander and the TUNER PRESET display. First, we recommend that you preset the active channels in your area using the automatic preset mode. Then, if there are any unwanted channels, delete them manually. If you've already decided which channels you wish to preset on the VCR, set them directly by using the channel number buttons.

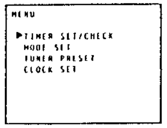
Before presetting channels, check the following points.
- Turn on the VCR and the TV.
- If you've connected the TV and the VCR using the VHF/UHF OUT on the VCR only, make sure that the TV is set to the correct channel (3 or 4) for the VCR.
- Press ANT TV/VTR to display the VTR indicator.
- Press INPUT SELECT so that the TUNER indicator and channel number appear in the display window.

Presetting All Receivable Channels Automatically

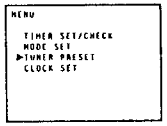


Use ▲ and ▼ to move the cursor.
Use ◀ and ▶ to select the items.

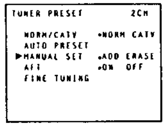
1 Press MENU.
The main menu appears.


```
MENU

▶TIMER SET/CHECK
 MODE SET
 TUNER PRESET
 CLOCK SET
```

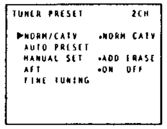
2 Press ▲ or ▼ to move the cursor (▶) to TUNER PRESET.


```
MENU

 TIMER SET/CHECK
 MODE SET
▶TUNER PRESET
 CLOCK SET
```

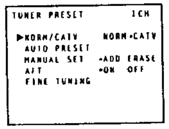
3 Press EXECUTE.
The TUNER PRESET display appears.


```
TUNER PRESET          2CH

 NORM/CATV     •NORM CATV
 AUTO PRESET
▶MANUAL SET    •ADD ERASE
 AFT           •ON  OFF
 FINE TUNING
```

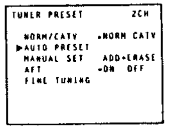
4 Press ▲ or ▼ to move the cursor to NORMAL/CATV.


```
TUNER PRESET          2CH

▶NORM/CATV     •NORM CATV
 AUTO PRESET
 MANUAL SET    •ADD ERASE
 AFT           •ON  OFF
 FINE TUNING
```

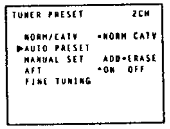
5 Use ◀ or ▶ to select NORM to preset VHF and UHF channels.
Select CATV to preset cable TV channels.
The lowest channel number, 2 for NORM and 1 for CATV will appear on the screen.


```
TUNER PRESET          1CH

▶NORM/CATV     NORM •CATV
 AUTO PRESET
 MANUAL SET    •ADD ERASE
 AFT           •ON  OFF
 FINE TUNING
```

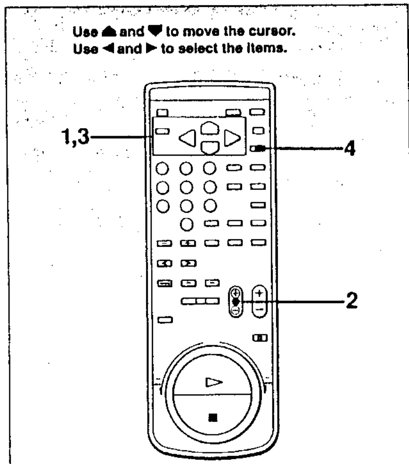
6 Press ▼ or ▲ to move the cursor to AUTO PRESET.


```
TUNER PRESET          2CH

 NORM/CATV     •NORM CATV
▶AUTO PRESET
 MANUAL SET    ADD•ERASE
 AFT           •ON  OFF
 FINE TUNING
```

7 Press EXECUTE.
Receivable channels preset in numerical sequence.
When no more channels can be found, the presetting stops and the picture of the lowest numbered channel is displayed with the tape counter.


```
TUNER PRESET          2CH

 NORM/CATV     •NORM CATV
▶AUTO PRESET
 MANUAL SET    ADD•ERASE
 AFT           •ON  OFF
 FINE TUNING
```

Presetting Desired Channels or Erasing Unwanted Channels

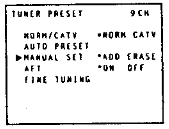


Use ▲ and ▼ to move the cursor.
Use ◀ and ▶ to select the items.

1 Follow steps 1 to 3 in "To Preset All Receivable Channels Automatically."

2 After automatic presetting is over, press CHANNEL +/– to select the channels to be erased and press channel number buttons to select the channels to be added.

3 To add channels:
Select channel using 0 to 9 and ENTER keys then select ADD.
To erase channels:
Select ERASE.


```
TUNER PRESET          9CH

 NORM/CATV     •NORM CATV
 AUTO PRESET
▶MANUAL SET    •ADD ERASE
 AFT           •ON  OFF
 FINE TUNING
```

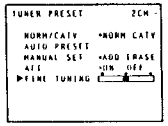
4 Press EXECUTE.
When pressing CHANNEL +/–, the erased channels are skipped and the added channels are displayed.

Fine-tuning

Normally the AFT (Auto Fine Tuning) setting is set to ON, and the AFT function fine-tunes the picture. If the picture of a particular channel is not acceptable, fine-tune it manually.

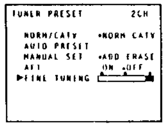
1 Call up the TUNER PRESET display referring to steps 1 to 3 in "To Preset Desired Channels Automatically." See page 18.

2 Press ▲ or ▼ to move the cursor to FINE TUNING.
The fine tuning indicator appears.



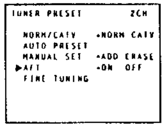
```
TUNER PRESET          2CH
 NORM/CATV    •NORM CATV
 AUTO PRESET
 MANUAL SET   •ADD ERASE
 AFT          •ON  OFF
▶FINE TUNING
```

3 Press ◀ or ▶ to get a clearer picture.
The AFT ON/OFF automatically switch to OFF.



```
TUNER PRESET          2CH
 NORM/CATV    •NORM CATV
 AUTO PRESET
 MANUAL SET   •ADD ERASE
 AFT           ON •OFF
▶FINE TUNING
```

4 Press ▲ to move the cursor to AFT and select ON if you cannot get a better picture.



```
TUNER PRESET          2CH
 NORM/CATV    •NORM CATV
 AUTO PRESET
 MANUAL SET   •ADD ERASE
▶AFT          •ON  OFF
 FINE TUNING
```

5 Press EXECUTE.

About the FINE TUNING indicator

The FINE TUNING indicator shows the operable fine-tuning range. When the VCR's tuner is receiving a broadcast signal in the best condition, the indicator will be at the center position or within one space right or left of the center position. However, even when a broadcast is received in the best condition, there may be cases when the indicator will not be at the position explained above.

Cable TV Channel Assignment

Cable TV systems use letters or numbers to designate the channels. To tune-in a CATV channel, refer to the chart below which shows the CATV channel numbers on this VCR and the corresponding CATV channel. Note that the channel number assignment shown in the chart may not correspond to the channel number used by your local cable company. Check with your local cable TV company for more information on the avaiable channels.

Number on this VCR	1	2	...	13	14	15	16	17	18
Corresponding CATV channel	A-8	2	...	13	A	B	C	D	E

19	20	21	22	23	24	25	26	27	28	29	30	31	32
F	G	H	I	J	K	L	M	N	O	P	Q	R	S

33	34	35	36	37	...	94	95	96	97	98	99
T	U	V	W	W+1	...	W+58	A-5	A-4	A-3	A-2	A-1

100	...	125
W+59	...	W+84

This VCR is designed to correspond to the Standard cable system. However, the cable TV services may vary from area to area. Your local cable TV company may adopt either the HRC[*1] or IRC[*2] cable system. Even in these cases, this VCR is capable of receiving either of these cable systems in the best condition.

[*1] **HRC (Harmonic Related Carriers)**
All channels except for 5 and 6 are 1250 kHz lower than the Standard cable system. Channels 5 and 6 are 750 kHz higher than the Standard cable system.

[*2] **IRC (Incremental Related Carriers)**
All channels except for 5 and 6 are the same as the Standard cable system. Channels 5 and 6 are 2000 kHz higher than the Standard cable system.

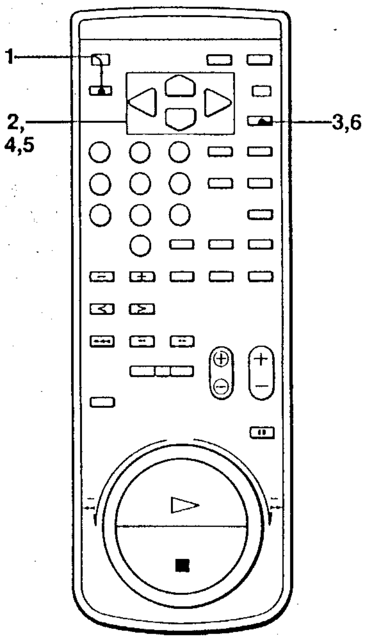
FINE TUNING indication when receiving HRC or IRC cable systems
Even when the signals are received in the best condition, the FINE TUNING indicator will not stay at the center position for channels higher or lower than the Standard cable system because of the difference in the frequency.

Note
Pay cable TV systems use scrambled or encoded signals and require special converters (decoders) in addition to the normal cable connection.

Changing the Mode Setting

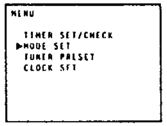
Before operating the VCR, change various mode settings, if necessary.

Use ▲ and ▼ to move cursor.
Use ◀ and ▶ to move dot.



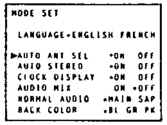
1 **Press MENU.**
The main menu appears.

2 **Press ▲ or ▼ to move cursor (▶) to MODE SET.**



```
MENU

  TIMER SET/CHECK
 ▶MODE SET
  TUNER PRESET
  CLOCK SET
```

3 **Press EXECUTE.**
The MODE SET menu appears.



```
MODE SET

 LANGUAGE•ENGLISH FRENCH

▶AUTO ANT SEL    •ON   OFF
 AUTO STEREO     •ON   OFF
 CLOCK DISPLAY   •ON   OFF
 AUDIO MIX        ON  •OFF
 NORMAL AUDIO   •MAIN SAP
 BACK COLOR     •BL GR PK
```

4 **Press ▲ or ▼ to move cursor (▶) to the desired mode.**

LANGUAGE (for Canada model only)
When you want to see on-screen displays in French, set to FRENCH.
On-screen display appears in French.

AUTO ANT SEL (Automatic Antenna Selector)
- **If your TV is not equipped with video/audio inputs**
  Set to ON.
  When playing back a tape, the picture is automatically displayed on the screen simply by selecting the channel for the VCR on the TV.
  To watch TV programs selected on the TV, press **ANT TV/VTR** to turn off the VTR indicator in the display window.
- **If your TV is equipped with video/audio inputs**
  Set to OFF.
  When playing back a tape, select the input for the VCR on the TV.
  To watch the TV programs selected on the TV, simply select the tuner input.

AUTO STEREO
If a stereo program received is noisy, set to OFF.
The program is recorded in monaural but noise may be reduced.

CLOCK DISPLAY
To erase the current date and time from on-screen display, set to OFF.

AUDIO MIX
To listen to the sounds recorded on both the hi-fi video track and the normal audio track of the audio-inserted tape, set to ON. For details, see page 29.

NORMAL AUDIO
When there is a SAP (Second Audio Program) broadcast, select SAP to record the SAP sound on the normal audio track. For details, see page 33.

BACK COLOR
Select the background color on the screen when no picture is displayed or the VCR is in MENU mode.
BL...blue
GR...green
PK...pink

5 **Press ◀ or ▶ to move dot to the desired setting.**

6 **Press EXECUTE to return to the original screen.**
The settings are stored.
The displayed page is stored unless the power plug is disconnected.

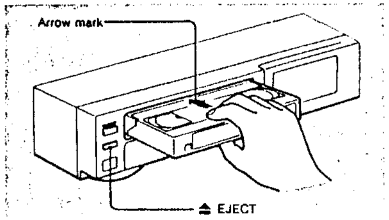
Playback

To be continued ►

In this section, we will explain the operations and functions related to tape playback.

Putting in a Video Cassette

1 **Put in a video cassette with the arrow mark facing upwards.**

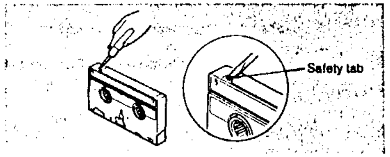


2 **Gently press the center of the front side of the cassette until the mechanism draws it into the compartment.**
When the cassette has been loaded, the cassette indicator (OO) lights in the display window of the VTR and the VTR turns on automatically.

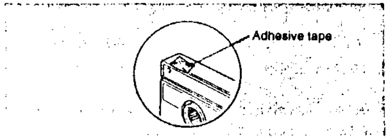
Note
If you put in a cassette without a safety tab, playback starts automatically (AUTO PLAYBACK function).

Ejecting the cassette
Press ⏏ EJECT on the VTR.
You can eject the cassette when the power is off.
When you press ⏏ EJECT, the power is turned on. After ejecting the cassette, the power is off again.

Protecting your cassette against accidental erasure
The cassette is provided with a safety tab to protect against accidental recording.
Break off the safety tab with a screwdriver or other suitable tool.
If the safety tab is removed, the cassette will be ejected when you try to record on the cassette.



To record on a cassette with the safety tab broken off, simply cover the tab hole with adhesive tape.

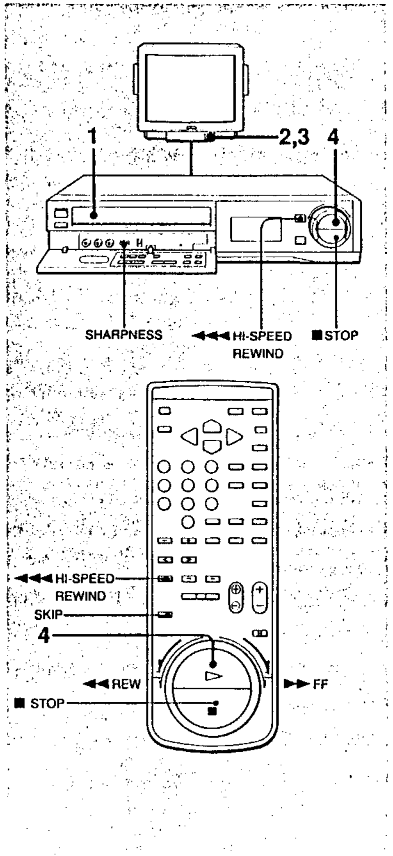


Maximum recording time of a tape
Recording in the SP or EP mode is possible with this unit. When recording, select the desired recording mode (SP or EP) with REC MODE on the Commander or the unit. During playback, the unit automatically detects the recording format, and then plays back the tape in the appropriate mode. A tape recorded in the EP mode runs three times as slowly as a tape recorded in the SP mode. Refer to the chart below for the recording/playback time available in each mode.

Cassette tape	Recording/playback time	
	SP mode	EP mode
T-160	2 hr. 40 min.	8 hr.
T-120	2 hr.	6 hr.
T-60	1 hr.	3 hr.
T-30	30 min.	1 hr. 30 min.

Tapes recorded in LP mode
Playback of tapes recorded in LP mode is also possible with this VCR. However, playback in modes other than normal forward speed is not guaranteed.
This VCR is not designed to record in the LP mode.

Playing Back a Cassette



1 **Put in a cassette.**

2 **Turn on the TV.**

3 **If your TV is connected to both VHF/UHF OUT and LINE OUT on the VCR**
Select the input for the VCR.
If your TV is connected only to the VHF/UHF OUT on the VCR
Select the channel for the VCR (3 CH or 4 CH).

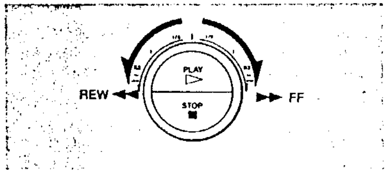
4 **Press ▷ PLAY.**

To be continued▶

To stop playback
Press ■ STOP.

To stop playback for a moment
Press ❙❙ PAUSE. To resume playback, press ❙❙ PAUSE.

To advance the tape rapidly
During stop mode:
Turn the DUAL MODE SHUTTLE ring to the right (▶▶).
To rewind the tape
During stop mode:
Turn the DUAL MODE SHUTTLE ring to the left (◀◀).


PLAY
STOP
REW ◀◀
▶▶ FF

To rewind the tape at high speed
Press ◀◀◀ HI-SPEED REWIND.

To rewind the tape to its beginning and to playback automatically (Auto Playback Function)
Press ▷ PLAY while turning the DUAL MODE SHUTTLE ring to the left (◀◀).
Or press ▷ PLAY while depressing ◀◀◀ HI-SPEED REWIND.
You cannot use the remote commander for the auto playback function.

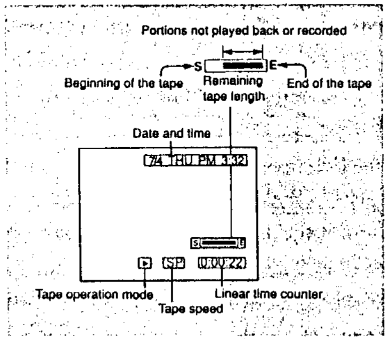
To get a sharper picture
Turn the SHARPNESS control toward SHARP.

To get a softer picture
Turn the SHARPNESS control toward SOFT.

When the tape is played back to the end
The tape is automatically rewound to the beginning (auto rewind). The power remains on.

About the Data Screen

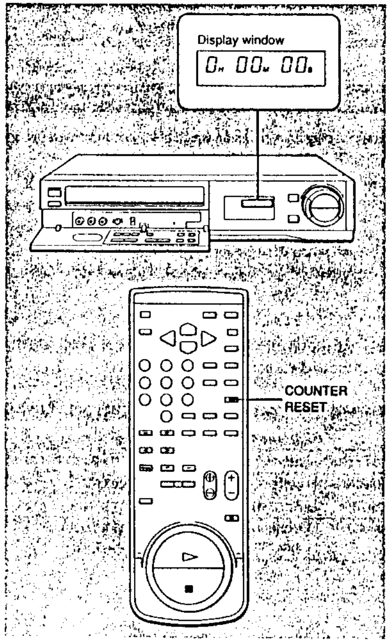
To erase or call up the data screen on the display, press DATA SCREEN on the Commander.


Portions not played back or recorded
S
E
Beginning of the tape
Remaining tape length
End of the tape
Date and time
7/4 THU PM 3:32
SP
0:00:22
Tape operation mode
Tape speed
Linear time counter

Notes
- The remaining tape length displayed is approximate. Therefore, use it only as an approximate reference. When you insert a short tape such as T-20, T-30 or a non-standard commercially available tape, this indicator may not function correctly.
- The data screen display cannot be called up on the screen during still mode, slow motion playback or high speed playback.

Indexing the Tape Contents

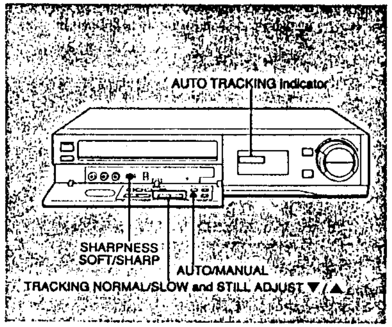
Before starting to record or playback, press COUNTER RESET to reset the counter to zero. By noting the counter reading at the desired point, you can easily find that point later by referring to the counter. Use the label on the cassette to list the programs and their counter readings.


Display window
0H 00M 00S
COUNTER RESET

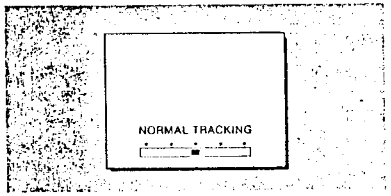
Note on counter reading
After a cassette is ejected, the counter reading is retained, however when a cassette is inserted again, the counter returns to "0H00M00S."

Playing Back a Tape Recorded on Another VCR

When playing back a tape recorded on another VCR, the tracking condition is automatically adjusted on this VCR. You can also adjust the tracking condition and the sharpness manually according to the following instructions.


AUTO TRACKING indicator
SHARPNESS SOFT/SHARP
AUTO/MANUAL
TRACKING NORMAL/SLOW and STILL ADJUST ▼/▲

Adjusting the tracking manually
When the playback picture proves to have streaks or snow during normal playback, adjust the picture manually with TRACKING NORMAL/SLOW and STILL ADJUST ▼ / ▲.
Press either ▼ or ▲ to obtain the best possible picture. The tracking meter will appear on the TV screen and the AUTO TRACKING Indicator will be turned off.
When the manual adjustment proves unsatisfactory, press both of the TRACKING NORMAL SLOW and STILL ADJUST ▼ / ▲. The tracking condition will return to the center position.



Automatic tracking adjustment function
The tracking condition is automatically adjusted on this VCR. The AUTO TRACKING indicator flasher while the VCR is searching for the best tracking condition and lights when optimum playback picture is obtained. The automatic tracking control is activated in the following conditions:
— when the cassette is inserted for the first time.
— when the recording mode on the playback tape is switched from SP to EP and back again.
— when the picture is distorted by scratches on the tape.
— when the AUTO TRACKING indicator is turned on by pressing TRACKING AUTO/MANUAL after the picture is adjusted manually.

Adjusting the sharpness
Turn the SHARPNESS SOFT/SHARP control toward SHARP to obtain a sharper picture. Turn it toward SOFT to obtain a softer picture.

Notes
- Auto tracking adjustment is not possible for tapes recorded in LP mode.
- Auto tracking adjustment may be impossible and the tracking indicator may not appear on the TV screen when the recording condition of the tape is poor.
- During auto tracking adjustment, streaks or noise may appear.
- The tracking indicator will only appear on the TV screen if DATA SCREEN is in the on position.

Selecting the Monitor Sound

You can play back tapes on which stereo sound programs or bilingual programs are recorded on the VCR.

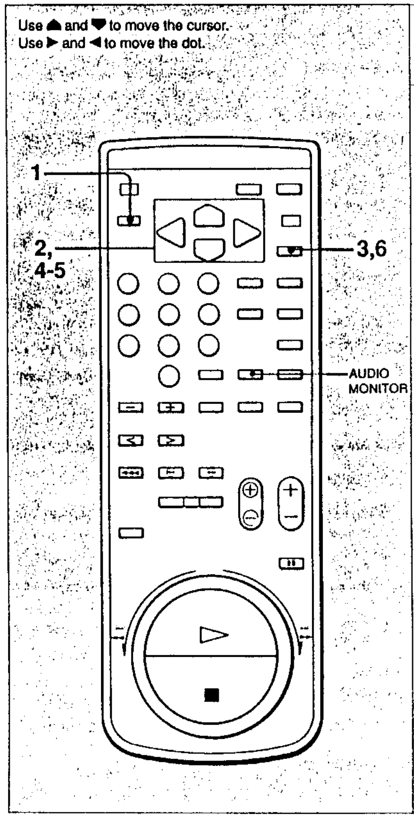
Note
When you play back a tape recorded in monaural, the sound is heard in monaural regardless of the setting of AUDIO MONITOR.

Press AUDIO MONITOR to select the desired sound.
Each press of the button changes the display.

Display	Sound to be heard	
	Stereo tape	Bilingual tape
STEREO	Stereo	Left and right channels
MAIN/L	Left channel	Left channel
SUB/R	Right channel	Right channel
None	Monaural (on normal audio track)	Sound on normal audio track (SAP)

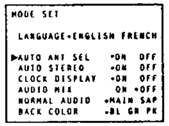
Listening to the Sounds on the Hi-Fi Track and Normal Track Mixed

You can hear the sounds recorded on the Hi-Fi video track and the normal audio track simultaneously. This allows you to listen to an audio-inserted tape.


Use ▲ and ▼ to move the cursor.
Use ▶ and ◀ to move the dot.

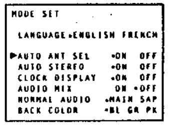
1 **Press MENU.**
The main MENU appears.

2 **Press ▲ or ▼ to move the cursor (▶) to MODE SET.**



```
MODE SET

 LANGUAGE•ENGLISH FRENCH

▶AUTO ANT SEL    •ON   OFF
 AUTO STEREO     •ON   OFF
 CLOCK DISPLAY   •ON   OFF
 AUDIO MIX        ON  •OFF
 NORMAL AUDIO   •MAIN SAP
 BACK COLOR     •BL GR PK
```

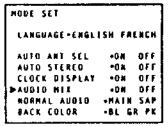
3 **Press EXECUTE.**
The MODE SET menu appears.



```
MODE SET

 LANGUAGE•ENGLISH FRENCH

▶AUTO ANT SEL    •ON   OFF
 AUTO STEREO     •ON   OFF
 CLOCK DISPLAY   •ON   OFF
 AUDIO MIX        ON  •OFF
 NORMAL AUDIO   •MAIN SAP
 BACK COLOR     •BL GR PK
```

4 **Press ▲ or ▼ to move the cursor to AUDIO MIX.**

5 **Press ◀ or ▶ to move the dot to ON.**



```
MODE SET

 LANGUAGE•ENGLISH FRENCH

 AUTO ANT SEL    •ON   OFF
 AUTO STEREO     •ON   OFF
 CLOCK DISPLAY   •ON   OFF
▶AUDIO MIX       •ON   OFF
 NORMAL AUDIO   •MAIN SAP
 BACK COLOR     •BL GR PK
```

6 **Press EXECUTE to return to the original screen.**

Note
- When you set AUDIO MIX to ON, the AUDIO MONITOR button does not function.
- Reset to OFF after listening to the sound in AUDIO MIX mode.

Recording TV Programs

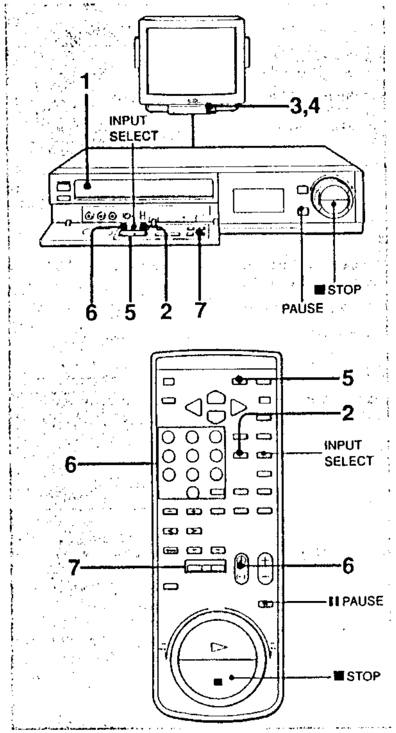
To be continued ▶

Before you begin, check the following points:

- Check the connections
  Make sure that the connections have been made correctly.
- Check the input mode indicator
  Press INPUT SELECT to light TUNER in the display window.

Caution
Television programs, films, video tapes and other materials may be copyrighted. Unauthorized recording of such material may be contrary to the provisions of the copyright laws. Also, use of this recorder with cable television transmission may require authorization from the cable television transmission and/or program owner.

Recording TV Programs



1 **Put in a cassette.**
The VCR turns on automatically (Auto power on).

2 **Select the recording tape speed, SP or EP, with REC MODE (SP/EP).**

3 **Turn on the TV.**

4 **If your TV is connected to both VHF/UHF OUT and LINE OUT on the VCR.**
Select the input for the VCR.
If your TV is connected only to the VHF/UHF OUT on the VCR.
Select the channel for the VCR (3 CH or 4 CH).

5 **Press ANT TV/VTR so that the VTR indicator lights.**
Skip this step if your VCR is not connected via the VHF/UHF antenna terminal.

6 **Select the channel to be recorded with CHANNEL +/– or channel number buttons and ENTER.**

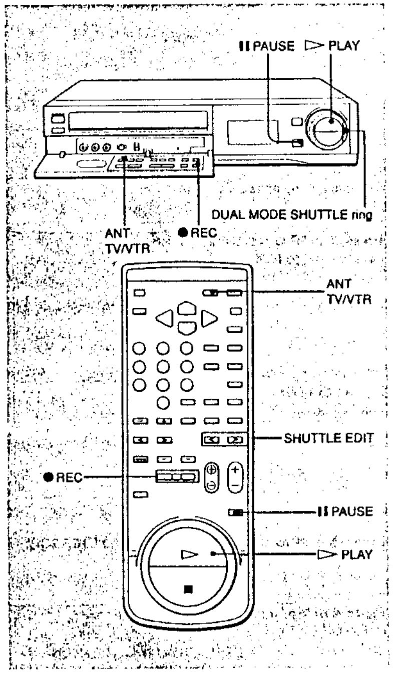
7 **Press the two ● REC buttons on the Commander at the same time, or the ● REC button on the unit.**

To stop recording
Press ■ STOP.

To stop the tape for a moment
Press II PAUSE. To resume recording, press II PAUSE. When the recording pause mode lasts for more than approximately 5 minutes, the unit enters the stop mode.

When the tape reaches its end
The tape rewinds to the beginning. The power will remain on.

Temporarily Stopping Recording at a Particular Point



Technique 1
You can stop recording when an unwanted scene appears and resume recording smoothly.

1 **Press II PAUSE when an unwanted scene appears.**
Recording will stop and the VCR enters the recording pause mode.

2 **Press II PAUSE at the desired point to release the pause mode.**
Recording resumes from the point set in step 1.

Technique 2
When an unwanted scene has already started to be recorded, you can return the tape to the desired point, have the VCR standby in the recording pause mode, and resume recording at the desired scene smoothly.

1 **Set the VCR to the recording pause mode.**

2 **Turn the DUAL MODE SHUTTLE ring to the left or press SHUTTLE EDIT (for SLV-686HF only) </> to search for the point from which you wish to continue recording.**
Each time you press SHUTTLE EDIT </>, the picture moves one frame. While pressing SHUTTLE EDIT </>, the frame-by-frame picture appears on screen.

3 **Release the DUAL MODE SHUTTLE ring or SHUTTLE EDIT </> at the desired point.**
After an instant of STILL mode, the VCR automatically enters the recording pause mode.

4 **Press II PAUSE.**
Recording resumes.

Watching One TV Program while Recording Another

1 **Press ANT TV/VTR so that the VTR indicator goes off.**

2 **Select the channel you want to watch on the TV.**

When the VTR indicator lights up

VTR indicator	Picture on the TV screen
Lit	Channel selected by the VCR or the playback picture of the VCR
Unlit	Channel selected by the TV

Recording a Program without Watching the TV

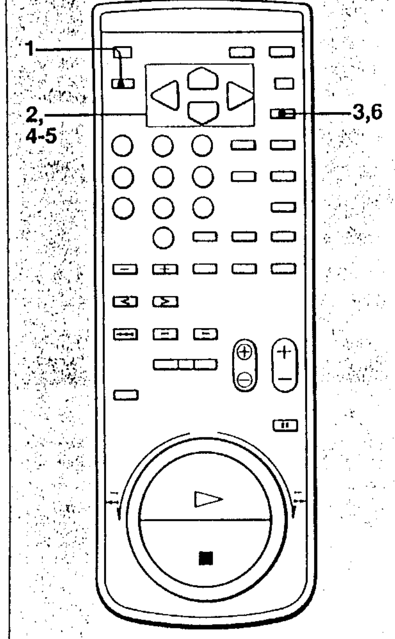
Turn off the power of the TV or color monitor.
There will be no interference with the recording.

Note
If you are using a color monitor, you cannot watch another program while recording unless the monitor has an internal TV tuner.

Recording Multi-channel TV Sound (MTS) Broadcasts

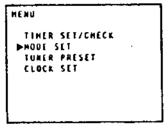
To record a stereo broadcast
When a stereo broadcast program is received, the STEREO indicator appears in the display window. The stereo program is automatically recorded in stereo.
If a stereo program is noisy, set AUTO STEREO to OFF in the MODE SET menu. The sound is heard in monaural but the nosie is reduced.

Use ▲ and ▼ to move the cursor.
Use ◀ and ▶ to move the dot.



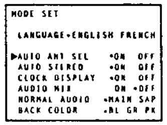
1 **Press MENU.**
The main menu appears.

2 **Press ▲ or ▼ to move the cursor (▶) to MODE SET.**



```
MENU

 TIMER SET/CHECK
▶MODE SET
 TUNER PRESET
 CLOCK SET
```

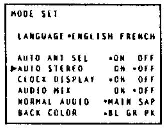
3 **Press EXECUTE.**
The MODE SET menu appears.



```
MODE SET

 LANGUAGE•ENGLISH FRENCH

▶AUTO ANT SEL    •ON   OFF
 AUTO STEREO     •ON   OFF
 CLOCK DISPLAY   •ON   OFF
 AUDIO MIX        ON  •OFF
 NORMAL AUDIO   •MAIN  SAP
 BACK COLOR     •BL GR PK
```

4 **Press ▲ or ▼ to move the cursor to AUTO STEREO.**

5 **Press ◀ or ▶ to move the dot to OFF.**

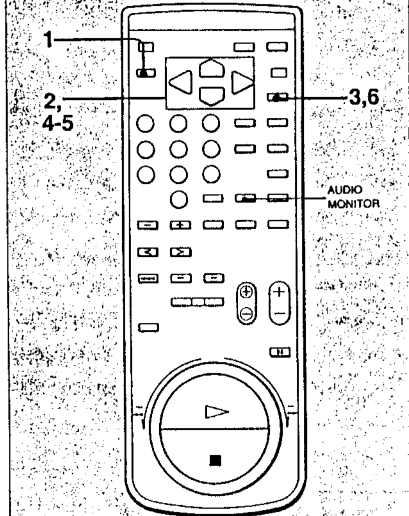


```
MODE SET

 LANGUAGE•ENGLISH FRENCH

 AUTO ANT SEL    •ON   OFF
▶AUTO STEREO      ON  •OFF
 CLOCK DISPLAY   •ON   OFF
 AUDIO MIX        ON  •OFF
 NORMAL AUDIO   •MAIN  SAP
 BACK COLOR     •BL GR PK
```

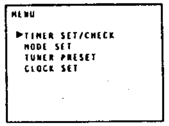
6 **Press EXECUTE to return to the original screen.**

To record SAP (Second Audio Program) broadcast
Normally, set NORMAL AUDIO to MAIN in the MODE SET menu. The main sounds is recorded on the normal track.
To record the SAP sound on the normal audio track, set NORMAL AUDIO to SAP in the MODE SET menu.

Use ▲ and ▼ to move the cursor.
Use ◀ and ▶ to move the dot.



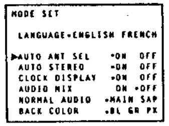
1 **Press MENU.**
The main menu appears.



```
MENU

▶TIMER SET/CHECK
 MODE SET
 TUNER PRESET
 CLOCK SET
```

2 **Press ▲ or ▼ to move the cursor (▶) to MODE SET.**

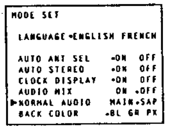
3 **Press EXECUTE.**
The MODE SET menu appears.



```
MODE SET

 LANGUAGE•ENGLISH FRENCH

▶AUTO ANT SEL    •ON   OFF
 AUTO STEREO     •ON   OFF
 CLOCK DISPLAY   •ON   OFF
 AUDIO MIX        ON  •OFF
 NORMAL AUDIO   •MAIN  SAP
 BACK COLOR     •BL GR PK
```

4 **Press ▲ or ▼ to move the cursor to NORMAL AUDIO.**

5 **Press ◀ or ▶ to move the dot to SAP.**



```
MODE SET

 LANGUAGE•ENGLISH FRENCH

 AUTO ANT SEL    •ON   OFF
 AUTO STEREO     •ON   OFF
 CLOCK DISPLAY   •ON   OFF
 AUDIO MIX        ON  •OFF
▶NORMAL AUDIO    MAIN •SAP
 BACK COLOR     •BL GR PK
```

6 **Press EXECUTE to return to the original screen.**

Notes
- When there is not SAP broadcast, select MAIN in step 5. If the SAP is selected, no sound will be recorded on the normal audio track.
- When the VCR and the TV are connected via the VHF antenna terminal, you cannot hear a program in stereo.

To monitor the SAP sound being recorded
Press AUDIO MONITOR to light the SAP indicator in the display window.

Timer Recording

To be continued ►

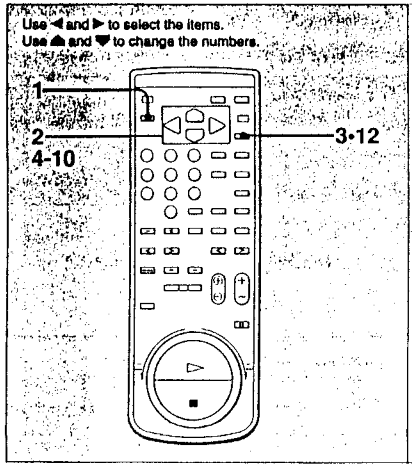
You can preset up to eight recordings up to one month in advance. The recordings can be preset with the Commander while referring to the TIMER SET/CHECK display on the TV screen.

Before you begin, check the following points.
- The date and clock must be set correctly. (See "Setting the Date and Time" on page 16.)
- Make sure that the cassette tape is long enough to record all the programs.
- Make sure that the safety tab on the cassette is not broken off. If you put in a cassette without its safety tab and press TIMER REC (ON/OFF), the cassette automatically ejects.
- Turn on the VCR and the TV.

Recording from today to one month later
If today is August 31st, you can set the timer to record a program broadcast between today and September 30 (for 31 days). If today is January 31st, you can set the timer to record a program broadcast between today and February 28th (for 29 days). A leap year is automatically considered.

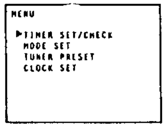
Setting the Timer

Example: Suppose you want to record a program broadcast on channel 26 from 9:00 pm to 10:55 pm on Wednesday July 10 in SP mode. Note that 12:00 AM is midnight and 12:00 PM is noon.



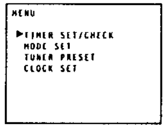
Use ◄ and ► to select the items.
Use ▲ and ▼ to change the numbers.

1 Press MENU.
The main menu appears.



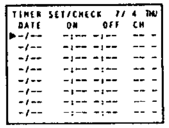
```
MENU
►TIMER SET/CHECK
 MODE SET
 TUNER PRESET
 CLOCK SET
```

2 Press ▲ or ▼ to move the cursor (►) to TIMER SET/CHECK.



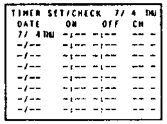
```
MENU
►TIMER SET/CHECK
 MODE SET
 TUNER PRESET
 CLOCK SET
```

3 Press EXECUTE.
The TIMER SET/CHECK display appears on the screen. When the clock is not set properly, a short beep alerts you. Return to "Date and Clock Setting" (page 16) to reset the clock.



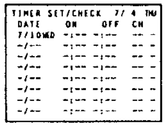
```
TIMER SET/CHECK  7/ 4 THU
 DATE     ON    OFF   CH
►-/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
```

4 Press ►.
Make sure that today's date is flashing. If not, re-set the correct time. See "Date and Clock Setting" (page 16).



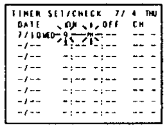
```
TIMER SET/CHECK  7/ 4 THU
 DATE     ON    OFF   CH
 7/ 4THU -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
```

5 Press ▲ to set the month and date to 7/10 WED.
The day of the week is automatically set.



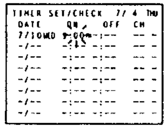
```
TIMER SET/CHECK  7/ 4 THU
 DATE     ON    OFF   CH
 7/10WED -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
```

6 Press ► to flash the hours section under "ON" then ▲ or ▼ until 9 PM appears.



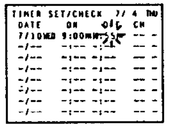
```
TIMER SET/CHECK  7/ 4 THU
 DATE     ON    OFF   CH
 7/10WED 9:--PM-:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
```

7 Press ► to flash the minute section under "ON" then ▲ or ▼ until 00 appears.



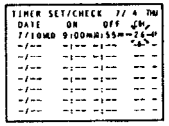
```
TIMER SET/CHECK  7/ 4 THU
 DATE     ON    OFF   CH
 7/10WED 9:00PM-:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
```

8 Press ►.
The on-time flashes under "OFF". Set the turn-off time referring to steps 6 and 7.



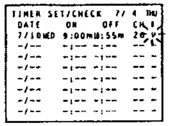
```
TIMER SET/CHECK  7/ 4 THU
 DATE     ON    OFF   CH
 7/10WED 9:00PM10:55PM -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
```

9 Press ► to flash the CH position then press ▲ or ▼ until 26 appears.
Only the channels set in the VCR will appear. The CHANNEL +/– and ENTER or channel number buttons can also be used.



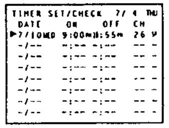
```
TIMER SET/CHECK  7/ 4 THU
 DATE     ON    OFF   CH
 7/10WED 9:00PM10:55PM 26 -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
```

10 Press ► to flash the recording speed position then ▲ or ▼ until SP appears. REC MODE can also be used.



```
TIMER SET/CHECK  7/ 4 THU
 DATE     ON    OFF   CH
 7/10WED 9:00PM10:55PM 26 SP
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
```

11 Press ► to store the setting.
When all of the settings stop flashing with a ► on the left-most position, this indicates that this setting has been completed.



```
TIMER SET/CHECK  7/ 4 THU
 DATE     ON    OFF   CH
►7/10WED 9:00PM10:55PM 26 SP
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
 -/--    -:--  -:--   -- -
```

12 Press EXECUTE.
The message "Please push TIMER REC to set timer" appears in the display window.

13 Press TIMER REC (ON/OFF) to enter the timer recording standby mode.

To be continued ▶

To change or correct the setting before completing it
Press ◀ to return to the item to be changed.

To preset another program
Move the cursor to the second line after step 11 and repeat steps 4 to 11.

To record video sources from LINE IN 1 or 2 jacks
Press INPUT SELECT in step 4 to 10 to call up LINE 1 or 2 under the "CH" position. The indication returns to channel numbers on the third press.

Problems when TIMER REC (ON/OFF) is pressed

The cassette ejects	The safety tab on the inserted cassette has been removed.
The TIMER indicator does not appear	• No cassette has been inserted. • The tape is at its end.

Daily/Weekly Recording
You can preset the timer-activated recording to the same program every day of the week (Daily recording), or one day of the week (Weekly recording).
Follow steps 1 through 4 in "Setting the Timer" (page 34).

You can select the following programs.

Each time you press ▼, the indication under DATE on screen changes in the following order:

SUN—SAT (Every day of the week)
↓
MON—SAT (Every day except Sunday)
↓
MON—FRI (Every day except Saturday and Sunday)
↓
EVERY SAT
⋮
EVERY TUE
↓
EVERY MON
↓
EVERY SUN

When your desired daily/weekly recording program is set and transmitted to the VCR, the corresponding indicator lights in the display window.

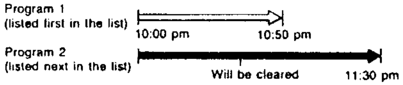
If a power interruption occurs

- If a power interruption lasting less than approximately three hours occurs while the VCR is waiting for the preset time, the VCR will re-enter the timer recording standby mode.
- If a power interruption lasting more than approximately three hours occurs before a timer recording, the memory clears. Reset the date and time for timer recording.
- If a power interruption lasting less than approximately three hours occurs during a timer recording, the VCR starts recording again and the tape counter indicates "0H00M00S."

When Preset Timer Recordings Overlap

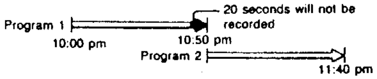
Case 1
If the turn-on time of two programs are the same

The program listed first on the TIMER SET/CHECK display has priority over the other programs. The timer recording parameters of lower priority programs will be erased from the TIMER SET/CHECK display when recording starts.



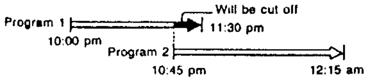
Case 2
If the recording start time of program 2 is the same as the recording end time of program 1

The last 20 seconds of program 1 will not be recorded.



Case 3
If the recording start time of program 2 comes before recording of program 1 is over

The recording of program 2 will begin before program 1 is finished.

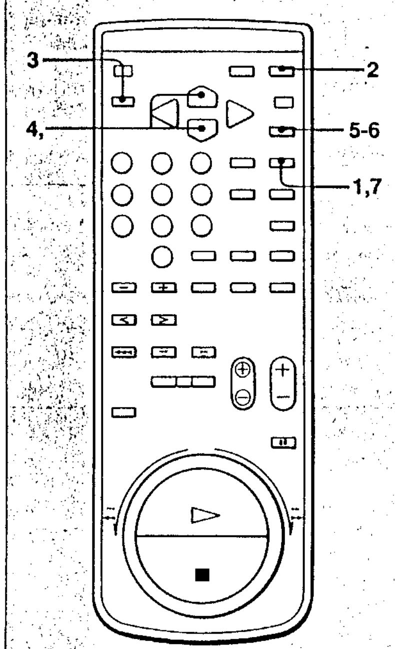


To be continued▶

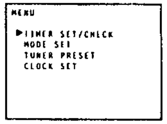
Checking the Timer Settings

You can display all of the timer settings on the TV screen to check the settings.

Press ▲ or ▼ to move the cursor.

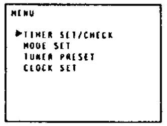


1. **Press TIMER REC (ON/OFF) to turn off the TIMER indicator in the display window.**
2. **Press POWER.**
3. **Press MENU.**
   The main menu appears.



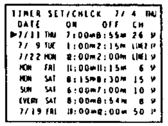
```
MENU
▶TIMER SET/CHECK
 MODE SET
 TUNER PRESET
 CLOCK SET
```

4. **Press ▲ or ▼ to move the cursor (▶) to TIMER SET/CHECK.**



```
MENU
▶TIMER SET/CHECK
 MODE SET
 TUNER PRESET
 CLOCK SET
```

5. **Press EXECUTE.**
   The TIMER SET/CHECK display appears.



```
TIMER SET/CHECK   7/ 4 THU
 DATE      ON     OFF   CH
▶7/11 THU  7:00  8:55  26 V
 7/ 9 TUE  1:00  2:15  LINE2 P
 7/22 MON 12:00  2:00  LINE1 V
 MON  FRI 11:00 11:15   6 V
 MON  SAT  8:15  8:30  15 V
 SUN  SAT  6:00  7:00  10 V
 EVERY SAT 8:00  8:54   8 V
 7/19 FRI 10:00 12:00  50 P
```

6. **Press EXECUTE to return to original screen.**
7. **Press TIMER REC (ON/OFF) to return to the timer recording standby mode.**

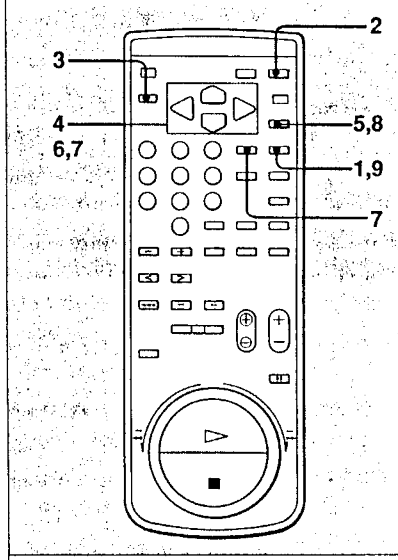
The TIMER SET/CHECK display
When a recording is set for only one day, that setting is erased from the TIMER SET/CHECK display after the recording is over.

To check the timer settings during timer recording
Follow steps 3 to 6 above.

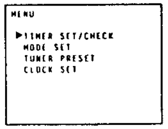
Changing or Canceling the Timer Settings

The timer settings can be changed or canceled by referring to the TIMER SET/CHECK display.

Use ▲ and ▼ to move the cursor.
Use ◀ and ▶ to change the flashing positions.

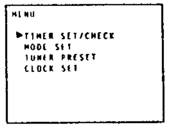


1. **Press TIMER REC (ON/OFF) to turn off the TIMER indicator in the display window.**
2. **Press POWER.**
3. **Press MENU.**
   The main menu appears.



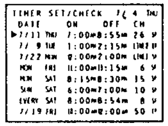
```
MENU
▶TIMER SET/CHECK
 MODE SET
 TUNER PRESET
 CLOCK SET
```

4. **Press ▲ or ▼ to move the cursor (▶) to TIMER SET/CHECK.**



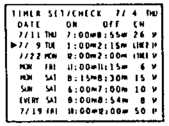
```
MENU
▶TIMER SET/CHECK
 MODE SET
 TUNER PRESET
 CLOCK SET
```

5. **Press EXECUTE.**
   TIMER SET/CHECK display appears.



```
TIMER SET/CHECK   7/ 4 THU
 DATE      ON     OFF   CH
▶7/11 THU  7:00  8:55  26 V
 7/ 9 TUE  1:00  2:15  LINE2 P
 7/22 MON 12:00  2:00  LINE1 V
 MON  FRI 11:00 11:15   6 V
 MON  SAT  8:15  8:30  15 V
 SUN  SAT  6:00  7:00  10 V
 EVERY SAT 8:00  8:54   8 V
 7/19 FRI 10:00 12:00  50 P
```

6. **Press ▲ or ▼ to move the cursor to the program you wish to change or cancel.**

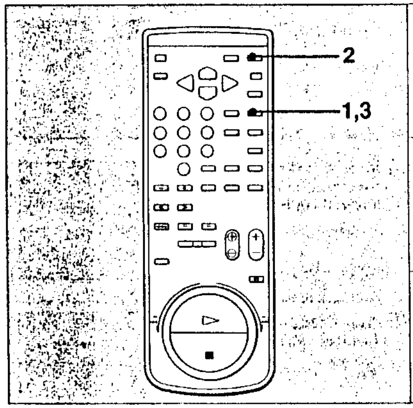


```
TIMER SET/CHECK   7/ 4 THU
 DATE      ON     OFF   CH
 7/11 THU  7:00  8:55  26 V
▶7/ 9 TUE  1:00  2:15  LINE2 P
 7/22 MON 12:00  2:00  LINE1 V
 MON  FRI 11:00 11:15   6 V
 MON  SAT  8:15  8:30  15 V
 SUN  SAT  6:00  7:00  10 V
 EVERY SAT 8:00  8:54   8 V
 7/19 FRI 10:00 12:00  50 P
```

7. **To change it, flash the item to be changed by pressing ◀ or ▶ and make the required changes by pressing ▲ or ▼.**
   To cancel it, press TIMER CLEAR.
8. **Press EXECUTE to store the changes and to return to the original screen.**
9. **Press TIMER REC (ON/OFF) to return to the timer recording standby mode.**

Using the VCR before Timer Recording Starts

If you want to use the VCR when it is in the timer recording standby mode, you must first turn off the TIMER indication in the display window and get out of the timer recording standby mode.



1 **Press TIMER REC (ON/OFF) so that the TIMER indicator in the display window goes off.**

2 **Press POWER.**
Now the VCR is ready to be used.

3 **After using the VCR, press TIMER REC (ON/OFF) to return to the timer recording standby mode and to light the TIMER indicator.**

After Entering the Timer Recording Standby Mode

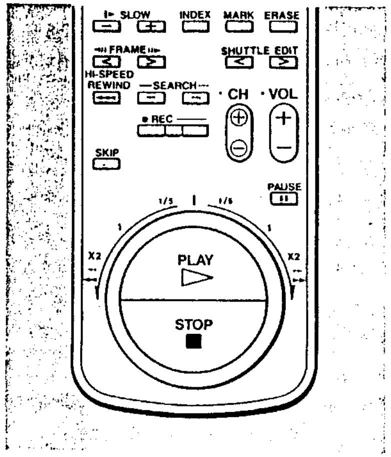
Automatic power on
The VCR goes on automatically when the set time comes on and starts recording. When it completes recording, the power automatically goes off.

To stop recording activated by the timer
Press TIMER REC (ON/OFF).

Buttons which can be operated during timer recording
- TIMER REC (ON/OFF)
- COUNTER RESET (See "Indexing the Tape Contents" page 27.)
- ANT TV/VTR (See "Watching One TV Program While Recording Another" page 31.)
- DATA SCREEN (See "About the Data Screen" page 26.)
- MENU (For checking the programs only. See "Checking the Timer Settings" page 38.)

Variable Speed Playback — DUAL MODE SHUTTLE RING ➤

You can enjoy playing back pictures in variable speeds on the VCR. Using the DUAL MODE SHUTTLE ring, you can obtain variable speed playback easily by turning the ring to the desired playback position and holding it at that position.



Still Picture

During playbak mode, press ❚❚ PAUSE. To resume normal playback, press ▷ PLAY, ❚❚ PAUSE. When pause mode lasts for more than 5 minutes, the VCR re-enters playback mode automatically.

Picture Search

During playback or still mode, turn the DUAL MODE SHUTTLE ring clockwise (forward direction) or counter-clockwise (reverse direction) until the double arrows ▶▶ or ◀◀ appear on the TV screen. Hold the ring at that position. While holding it, a high speed picture without sound appears on the TV screen.
If you release the ring, normal playback returns.

Note
The picture may turn to black and white during picture search depending on the TV connected to the VCR when you play back tapes recorded in LP recording tape speed.

Locked Picture Search

During playback or playback pause mode, press ⏩ SEARCH or ⏪ SEARCH on the Commander. A high speed picture in forward or reverse appears on the screen even when the button is released. To resume normal playback, press ▷ PLAY.

Skip Playback

The skip function allows you to scan ahead 30 seconds at high speed during the playback mode. Press SKIP on the Commander.
A high speed picture of the scene for about 30 seconds appears on the screen for each press and then normal playback resumes.

Slow Motion Playback

During playback or playback pause mode, press ❚▶ SLOW + or – on the Commander. Change the slow motion speed with the + or – buttons. Press + to increase the playback speed, and – to decrease the playback speed.

Viewing a Picture Momentarily during Fast-forward or Rewind

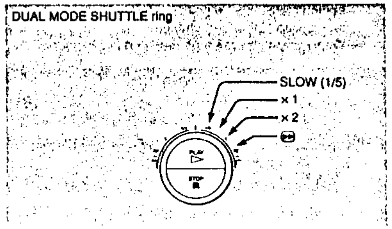
During fast-forward or rewind, turn the DUAL MODE SHUTTLE ring on the VCR clockwise (forward) or counter-clockwise (reverse direction).
You can view a picture at high speed while you hold the ring at that position.
If you release the ring, the VCR returns to the previous status (fast-forward or rewind).

Frame-by-Frame Picture

During playback pause mode, press ◀❚❚ FRAME ❚❚▶ > to advance the picture one frame or ◀❚❚ FRAME ❚❚▶ < to reverse the picture one frame. Each time you press the button, the picture moves one frame. To resume normal playback, press ▷ PLAY.

Variable Speed Playback

Various playback modes as illustrated below can be selected with DUAL MODE SHUTTLE ring during playback mode or playback pause mode. The same speeds are available in the reverse direction. If you release the ring, the VCR returns to the previous mode (playback mode or playback pause mode).
To resume normal playback, press ▷ PLAY.



Adjusting the Picture Manually in Variable Speed Playback

If streaks or noise appear on a slow motion picture
Adjust the picture with the TRACKING NORMAL/SLOW and STILL ADJUST ▼ / ▲ buttons inside the front panel.
The picture can be adjusted more easily by changing the speed closer to normal playback by pressing ❚▶ SLOW +.

If the picture appears to shake in the still mode
Adjust the picture with the STILL ADJUST ▼ / ▲ buttons inside the front panel until the picture stabilizes.

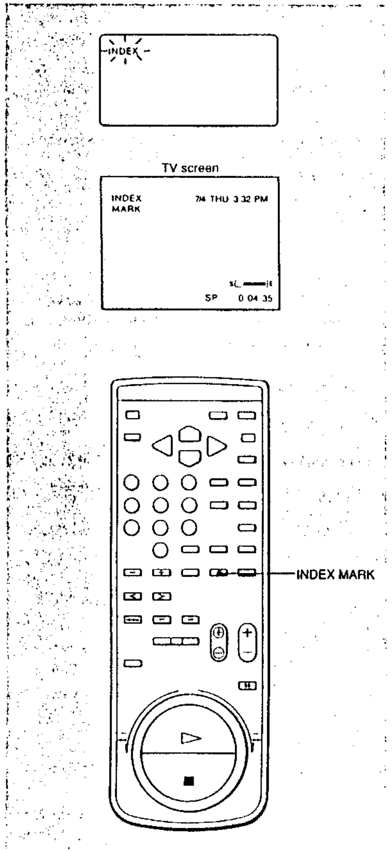
If a band appears on the top or bottom of the screen in still mode
Adjust the picture with the TRACKING NORMAL/SLOW and STILL ADJUST ▼ / ▲ buttons inside the front panel while playing back the tape in a slow motion.

Note
Streaks or noise cannot be completely eliminated in the reverse direction playback or in reverse slow modes.

Index Function

A particular program can be located easily using an index signal marked on the tape.

Marking Index Signals


INDEX
TV screen
INDEX
MARK
7/4 THU 3:32 PM
SP 0:04:35
INDEX MARK

The INDEX indicator flashing in the display window and the INDEX MARK display on the TV screen show that an index signal has been marked.

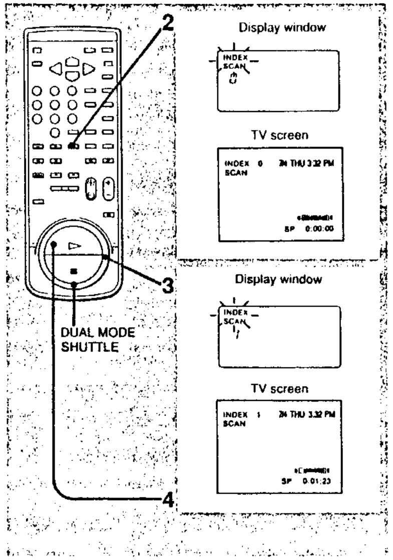
Automatic index mark
An index signal is automatically marked at the beginning of recording.

Manual index mark
Index signals can be marked at any desired point during any recording or normal playback. Press INDEX MARK to mark an index signal.

Notes

- Leave an interval of more than 2 minutes between index signals when marking them one after the other so that the VCR can detect them correctly.
- While an index signal is being marked during playback, the recorded sound will not be heard, but it will not be erased.
- You cannot mark an index signal in the following cases:
  - —On a tape without its safety tab.
  - —On an unrecorded portion of a tape.
  - —Immediately before a point on the tape where the tape speed (EP or SP) changes.
  - —When playing back a tape recorded in LP mode.

Playing Back from the Index Point — Index Scan


2
3
4
DUAL MODE
SHUTTLE
Display window
INDEX
SCAN
TV screen
INDEX 0
SCAN
7/4 THU 3:32 PM
SP 0:00:00
Display window
INDEX
SCAN
TV screen
INDEX 1
SCAN
7/4 THU 3:32 PM
SP 0:01:23

The beginning of each program can be found and played back by using the index signals.

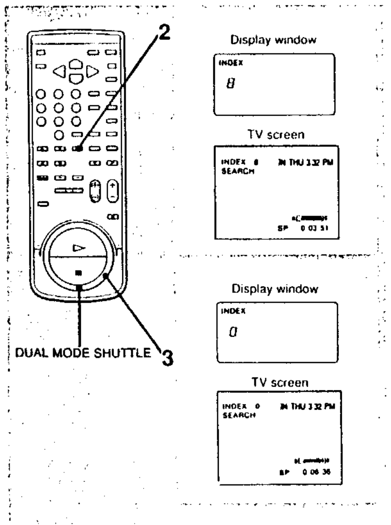
1 **Put in a cassette with index signals.**

2 **Press INDEX once.**
The INDEX and SCAN indicator flashes alternately.

3 **Turn the DUAL MODE SHUTTLE ring clockwise to locate the previous program or counter-clockwise to locate the program ahead.**
The INDEX SCAN indicator flashes continuously while scanning. The tape rewinds or rapidly advanced to the next marked index signal. The tape plays back for approximately 10 seconds from the index signal, and then rewinds or advances to the next index signal. Every time an index signal is detected and playback begins, the displayed index number increases.

4 **When the desired program is detected, press ▷ PLAY.**
Playback starts from that point.

Locating an Index — Index Search

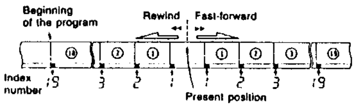

2
DUAL MODE SHUTTLE
3
Display window
INDEX
8
TV screen
INDEX 8 7/4 THU 3:32 PM
SEARCH
SP 0:03:51
Display window
INDEX
0
TV screen
INDEX 0 7/4 THU 3:32 PM
SEARCH
SP 0:06:36

A particular program can be located and played back by designating how many index signals ahead or behind that program is from the current position. Up to 19 indexes can be searched for.

1 **Put in a cassette with index signals.**

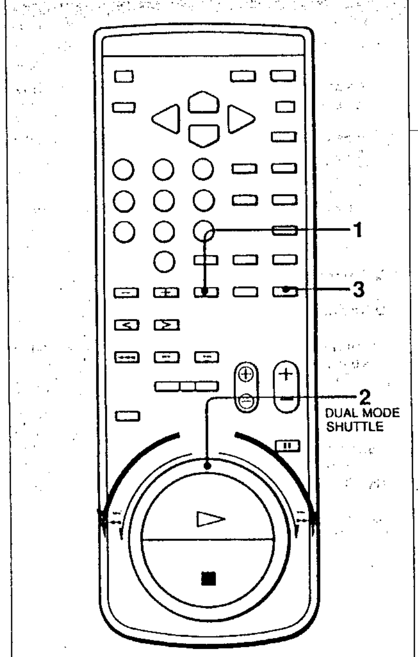
2 **Press INDEX until the index number of the desired program is displayed.**
The INDEX indicator and the INDEX number are displayed.

3 **Turn the DUAL MODE SHUTTLE ring counterclockwise if the index is behind, or clockwise if the index is ahead of the current tape position.**
The tape rewinds or rapidly advances. Every time an index signal is detected, the INDEX number decreases. When the number reaches 0, playback of your desired program begins.

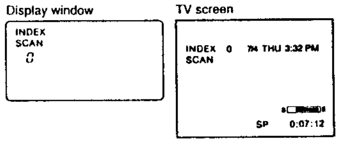

Beginning of the program
Rewind
Fast-forward
19
3
2
1
Index number
19
3
2
1
1
2
3
19
Present position

Erasing Index Signals

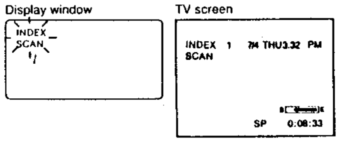
Unnecessary index signals can be erased.


1
3
2
DUAL MODE SHUTTLE

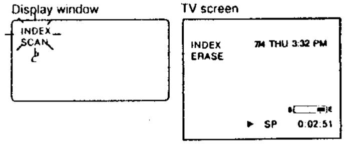
1 **Press INDEX once.**
The INDEX and SCAN indicator blinks alternately.


Display window
INDEX
SCAN
0
TV screen
INDEX 0 7/4 THU 3:32 PM
SCAN
SP 0:07:12

2 **Turn the DUAL MODE SHUTTLE ring clockwise or counterclockwise to search for the index signal to be erased.**
The tape rewinds or rapidly advances.
Every time an index signal is detected, the tape plays back and then rewinds or advances to the next index signal.


Display window
INDEX
SCAN
1
TV screen
INDEX 1 7/4 THU3.32 PM
SCAN
SP 0:08:33

3 **When you reach the index signal you wish to erase, press INDEX ERASE within approximately 10 seconds after you have verified the playback picture.**
The INDEX indicator flashes.
While the index signal is being erased, the recorded sound is not be heard, but it is not erased from the tape.


Display window
INDEX
SCAN
2
TV screen
INDEX 7/4 THU 3:32 PM
ERASE
SP 0:02:51

Notes
- Index signals marked on a portion of tape just before or after the recording modes, SP and EP, are switched cannot be erased.
- Index signals marked on an LP mode tape cannot be erased.

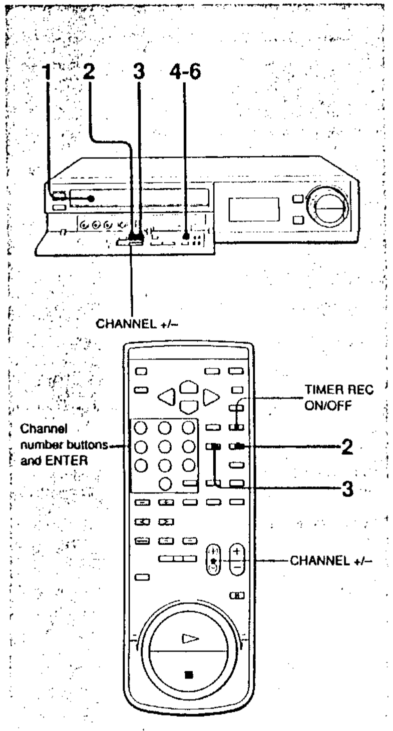
Quick Timer Recording

This function is convenient when, for example, you want to set the VCR to start recording immediately without going through the whole timer setting procedure.
However, the quick timer recording function only provides a very rough setting for the desired program.

Before you begin, check the following points.

- Press TIMER REC (ON/OFF) if the TIMER indicator is turned on.
- If you are currently recording, perform step 6 only.

Quick Timer Recording



1 **Put in a cassette.**

2 **Press INPUT SELECT so that the TUNER indicator is turned on.**

3 **Press REC MODE (SP/EP) to decide the tape speed, SP or EP.**

4 **Press QUICK TIMER on the VCR.**
Select the channel for recording with CHANNEL +/– or channel number buttons and ENTER while the channel display is flashing.

5 **Press QUICK TIMER again to start recording.**

6 **To decide the recording duration, press QUICK TIMER to change the duration indicator.**
Every press of QUICK TIMER increases the recording duration in units of 30 minutes.

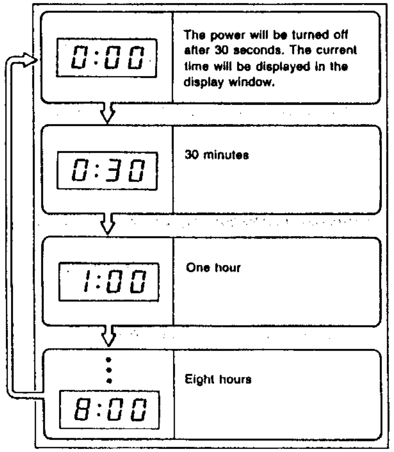
You can leave your VCR after turning off the TV. The VCR automatically goes off when the recording is finished.

If a cassette without its safety tab is inserted
The cassette is ejected automatically when you press QUICK TIMER.

To stop quick timer recording
Press TIMER REC ON/OFF.

Recording Duration Indicator

Every time you press QUICK TIMER, the recording duration indicator will change as shown in the illustration. The recording duration can be changed by pressing QUICK TIMER even during quick timer recording. The duration indicator counts down the recording time, minute by minute, during recording.


0:00
The power will be turned off after 30 seconds. The current time will be displayed in the display window.
0:30
30 minutes
1:00
One hour
8:00
Eight hours

Buttons Operable during Quick Timer Recording

TIMER REC (ON/OFF)	To stop quick timer recording.
QUICK TIMER	To change recording duration.
COUNTER RESET	To reset the tape counter to zero.
INDEX MARK	To record an index signal.
ANT TV/VTR	To watch the picture broadcast on another channel. (TV)
MENU	Only operable to check the timer recording settings. (See "Checking the Timer Settings"on page 38.)

If the tape runs out during quick timer recording
Recording will stop and the power goes off. The tape will not rewind automatically.

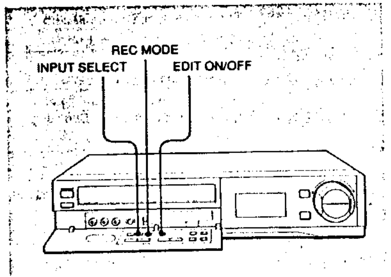
If a power interruption occurs during quick timer recording
Recording will stop and the power goes off. If the power interruption lasts less than three hours and the power is restored before the recording end time, recording will start again from that point.

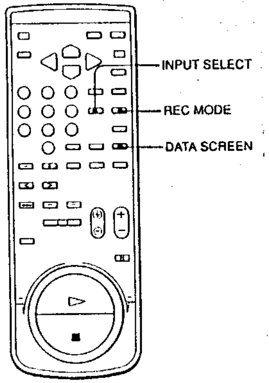
To be continued▶

Editing

Using an additional VCR, you can create original video program tapes.

Preliminary Setting for Editing





When using this VCR as the recording VCR
Before editing, check these settings:

- **INPUT SELECT:** Select LINE 1 or LINE 2, whichever the playback VCR is connected to.
- **REC MODE:** Select SP or EP.
- **EDIT indicator:** Press EDIT ON/OFF to light the EDIT indicator.

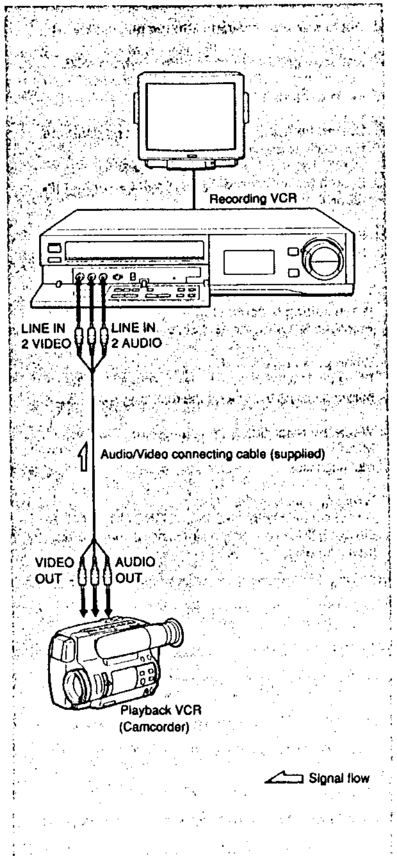
When using the SLV this VCR as the playback VCR
Before editing, check these settings:

- **EDIT indicator:** Press EDIT ON/OFF to light the EDIT indicator.
- **DATA SCREEN:** Press to erase the on-screen displays.

Use of the EDIT ON/OFF button
Even when using the EDIT mode during editing, the quality of the edited tape will have a certain amount of deterioration in picture. Avoid using an edited tape for multiple generations of editing.

Editing from Another VCR

Using this VCR as the Recording VCR and an 8 mm Video Camera Recorder as the Playback VCR



1. **Put a cassette for recording into the recording VCR.**
2. **Turn on the power of the playback VCR and insert a source cassette.**
3. **Activate the EDIT mode on the recording VCR.**
   Activate the EDIT mode on the playback VCR if the player has this function.
4. **Search for the playback start point and enter the playback pause mode.**
5. **Search for the recording start point and enter the recording pause mode.**
6. **Press the PAUSE button on both of the units.**
   Recording of the signals from the playback VCR will start.

When editing is completed
Press the STOP button on both of the VCRs.

When pressing PAUSE
Press the PAUSE button on the playback VCR a little before pressing the one on the recording VCR.

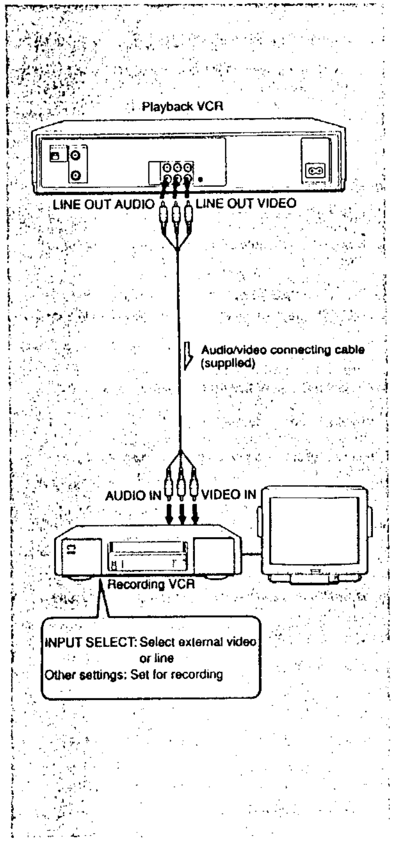
When the playback VCR is a stereo unit
Make connections with the supplied audio/video connecting cable.

When connecting the VCRs
Do not connect both LINE IN and LINE OUT jacks on the two VCRs simultaneously. Doing so may cause a humming noise.

To be continued ▶

Editing onto Another VCR

Using this VCR as the Playback VCR and a Betamax VCR as the Recording VCR



INPUT SELECT: Select external video or line
Other settings: Set for recording

1 **Turn on the power of the recording VCR and insert a cassette for recording.**

2 **Put in a source cassette into the playback VCR.**

3 **Activate the EDIT mode on the playback VCR.**
Activate the EDIT mode on the recording VCR if the recorder has this function.

4 **Search for the playback start point and enter the playback pause mode.**

5 **Search for the recording start point and enter the recording pause mode.**

6 **Press the PAUSE button on both of the units.**
Recording of the signals from the playback VCR will start.

When editing is completed
Press the STOP button on both of the units.

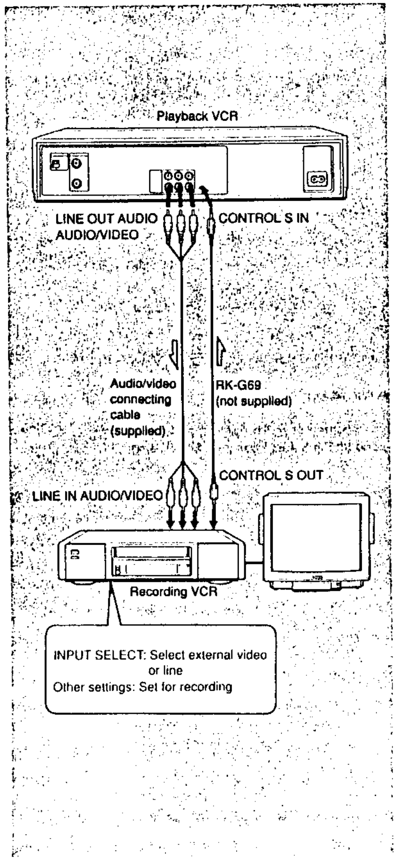
When pressing PAUSE
Press the PAUSE button on the playback VCR just before pressing the one on the recording VCR.

When the recording VCR is a monaural unit
Make connections with the VMC-910MS/920MS cable (not supplied).

When connecting the VCRs
Do not connect both LINE IN and LINE OUT jacks on the two VCRs simultaneously. Doing so may cause a humming noise.

Synchronized Editing onto Another VCR

Using this VCR as the Playback VCR and Another VCR with a Control S OUT Terminal and the Synchro Edit Function as the Recording VCR



INPUT SELECT: Select external video or line
Other settings: Set for recording

This section shows you how to use the synchronizing function of another VCR with SYNCHRO EDIT on this VCR while editing your tape. For synchronized editing, you can use this VCR as the playback VCR and another VCR with a CONTROL S OUT terminal and the synchro edit function as the recording VCR.

1 **Turn on the power of the recording VCR and insert a tape for recording.**

2 **Put in a source tape into the playback VCR.**

3 **Activate the EDIT mode on the playback VCR.**
Activate the EDIT mode on the recording VCR if the recorder has this function.

4 **Search for the edit start point and enter the recording pause mode.**

5 **Search for the playback start point and enter the playback pause mode.**

6 **Press SYNCHRO EDIT on the recording VCR.**
Both recording and playback will start.

7 **At the desired edit end point, press SYNCHRO EDIT on the recording VCR.**
The recording VCR enters the recording pause mode and the playback VCR enters the playback pause mode.

To edit the next scene
Repeat steps 5, 6, and 7.

When editing is completed
Press STOP on both of the units.

When the recording VCR is a monaural unit
Make connections with the VMC-910MS/920MS cable (not supplied).

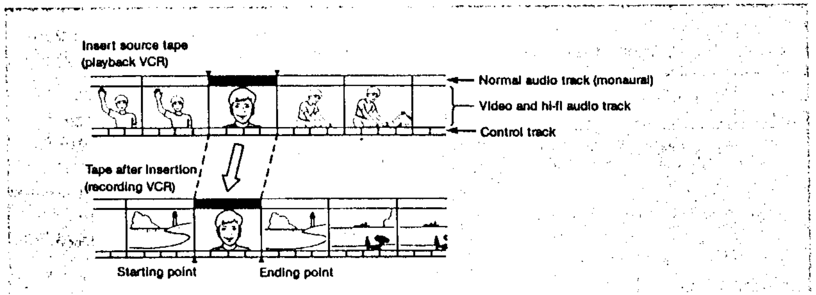
When connecting the VCRs
Do not connect both LINE IN and LINE OUT jacks on the two VCRs simultaneously. Doing so may cause a humming noise.

To be continued ▶

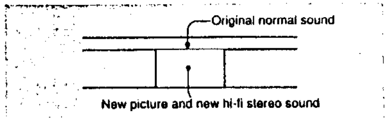
Insert Editing (SLV-686HF only)

You can easily insert a new picture and/or sound onto a pre-recorded tape. "Audio insert", "Video insert", or "Audio and video insert" can be selected with this operation. This editing is useful to replace an unnecessary scene (sound) with another scene (sound).

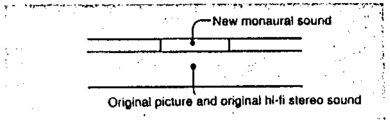
- For connection, see page 51 or 53. (The CONTROL S connections are not needed.)
- Select the insert source from the equipment connected to LINE IN 1 or 2.
- Connect the VCR to an audio system for "Audio insert."


Insert source tape
(playback VCR)
Normal audio track (monaural)
Video and hi-fi audio track
Control track
Tape after insertion
(recording VCR)
Starting point
Ending point

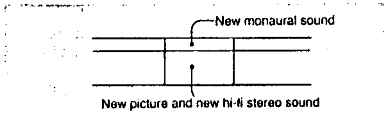
Video insert
You can insert a new picture and a new hi-fi stereo sound from video and hi-fi audio track onto a pre-recorded tape. The normal sound of the normal audio track will be retained.


Original normal sound
New picture and new hi-fi stereo sound

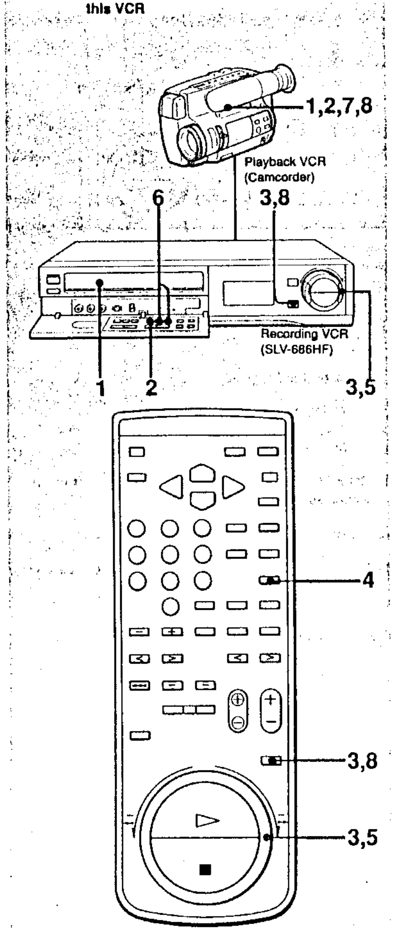
Audio insert
You can insert the monaural part of a normal sound onto a pre-recorded tape. The picture and a hi-fi stereo sound of the video and hi-fi audio track will be retained.


New monaural sound
Original picture and original hi-fi stereo sound

Video and Audio insert
You can insert a new picture, a new hi-fi stereo sound, and a new normal sound onto a pre-recorded tape.


New monaural sound
New picture and new hi-fi stereo sound

Example: From an 8 mm video camera recorder to this VCR


1,2,7,8
Playback VCR
(Camcorder)
6
3,8
Recording VCR
(SLV-686HF)
1
2
3,5
4
3,8
3,5

1 **Put a source tape into the playback VCR and a tape for recording into this VCR.**

2 **Press EDIT ON/OFF.**
Activate the edit function if the playback VCR has it.

3 **On this recording VCR, locate the edit end point and put this VCR into the playback pause mode.**
DUAL MODE SHUTTLE is useful for locating a desired ending point.

4 **On the recording VCR, press COUNTER RESET.**
The counter shows "0H00M00S" and the ending point is memorized.

5 **On the recording VCR, rewind the tape to locate the starting point and set the VCR to the playback pause mode.**
DUAL MODE SHUTTLE is useful for locating a desired starting point.

6 **Press VIDEO/AUDIO INSERT.**
For audio insert, press AUDIO. The "A INSERT" lights in the display window.
For video insert, press VIDEO. The "V INSERT" lights in the display window.
For audio and video insert, press the AUDIO and then VIDEO. The "AV INSERT" lights in the display window.

7 **On the playback VCR, locate the starting point where you want to start the insertion and set the VCR to the playback pause mode.**

8 **Press the PAUSE button on both VCRs to start the insertion.**
At the ending point (0H00M00S), the insertion stops automatically. (To stop playback, press the STOP button.)

To stop the insertion temporally
Press ❚❚ PAUSE.

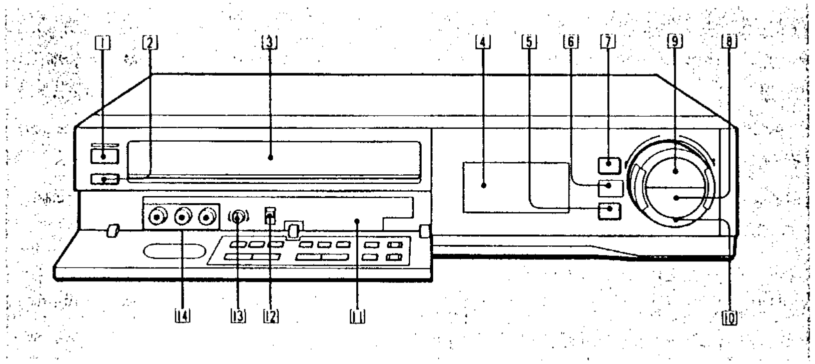
To stop on-going insertion
Press ■ STOP.

Notes
- The video/audio inserts cannot be made onto an unrecorded portion of a tape.
- After the insertion, the previous picture and/or sound will be erased.

Identifying the Parts and Controls

Refer to the pages indicated for details.

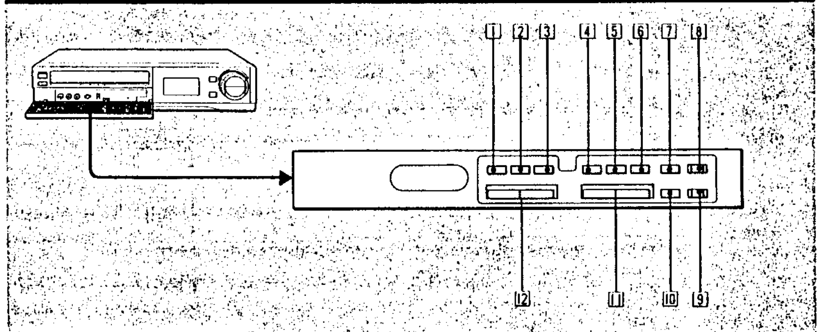
Front Panel



1. POWER ON/OFF switch and indicator (page 13)
2. ≜ EJECT button (page 24)
3. Cassette compartment
4. Display window and function mode display (page 59)
5. PAUSE button (page 42)
6. Remote sensor
7. HI-SPEED REWIND button (page 26)
8. STOP button (page 26)
9. PLAY button (page 25)
10. DUAL MODE SHUTTLE ring
11. CL (clear) button (page 63)
12. COMMAND MODE VTR 1/VTR 2/VTR 3 selector (page 14)
13. SHARPNESS SOFT/SHARP control (page 27)
14. LINE IN 2 VIDEO and AUDIO jacks (phono type) (page 51)

Refer to the pages indicated for details.

Inside of the Front Panel



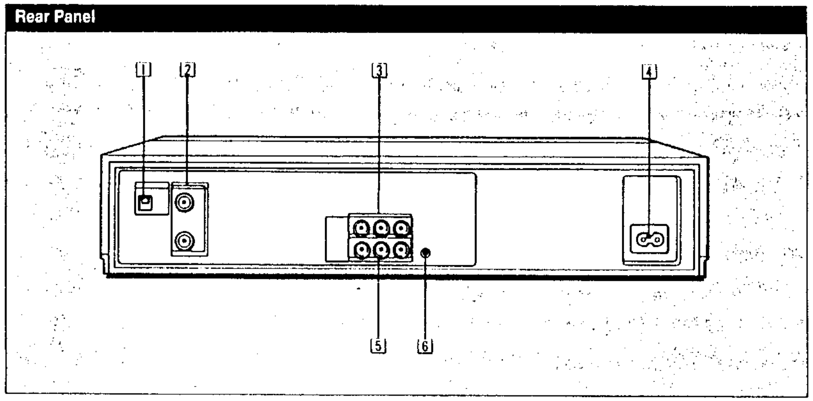
This illustration shows the SLV-686HF.

1. ANT TV/VTR button (page 13)
2. INPUT SELECT button (page 30)
3. REC MODE (SP/EP) button (page 30)
4. EDIT ON/OFF button (page 50)
5. VIDEO INSERT button (SLV-686HF only) (page 55)
6. AUDIO INSERT button (SLV-686HF only) (page 55)
7. QUICK TIMER button (page 48)
8. TIMER REC ON/OFF button (page 35)
9. REC button (page 30)
10. TRACKING AUTO/MANUAL button (page 27)
11. TRACKING NORMAL/SLOW and STILL ADJUST ▼/▲ button (page 27)
12. CHANNEL +/– buttons (page 30)

To be continued▶

Refer to the pages indicated for details.

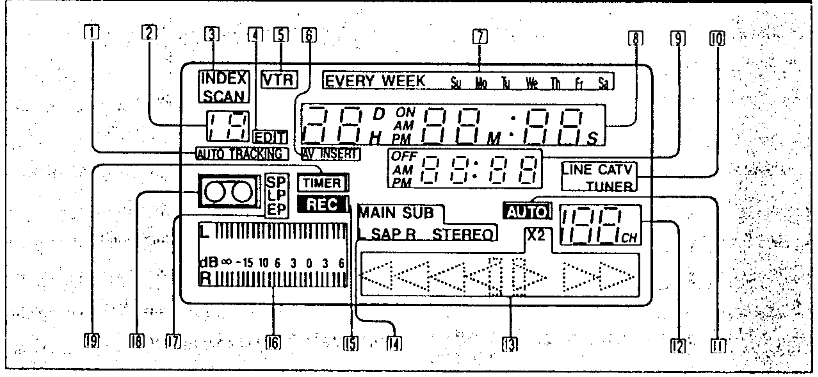
Rear Panel



1. RF UNIT selector (page 13)
2. VHF/UHF IN/OUT connectors (F-type) (pages 7-10)
3. LINE IN 1 VIDEO and AUDIO jacks (phono type)
4. AC IN socket
5. LINE OUT VIDEO and AUDIO jacks (phono type) (page 11)
6. CONTROL S IN jack (mini type) (page 53)

Refer to the pages indicated for details.

Indications in the Display Window

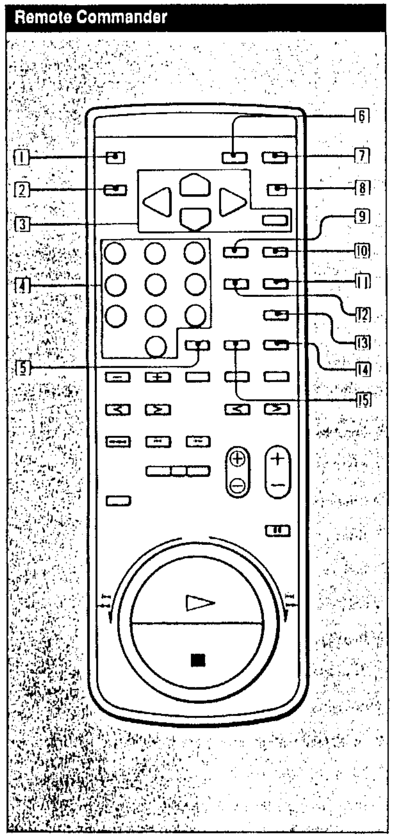

1
2
3
4
5
6
7
8
9
10
INDEX SCAN
VTR
EVERY WEEK Su Mo Tu We Th Fr Sa
D ON AM H PM M S
EDIT
AUTO TRACKING
AV INSERT
OFF AM PM
LINE CATV TUNER
SP LP EP
TIMER
REC
MAIN SUB
SAP R STEREO
AUTO
X2
CH
L
dB ∞ -15 10 6 3 0 3 6
R
19
18
17
16
15
14
13
12
11

1. AUTO TRACKING indicator (page 28)
2. Index number indicator (page 44)
3. INDEX, INDEX SCAN indicator (page 44)
4. EDIT indicator (page 50)
5. VTR indicator (page 31)
6. AV INSERT indicator (SLV-686HF only) (page 55)
   "A INSERT" lights for audio insert.
   "V INSERT" lights for video insert.
   "AV INSERT" lights for audio and video insert.
7. Day of the week indicator, EVERY WEEK indicator for timer-activated recording (page 36)
8. Linear time counter and turn-on time for timer-activated recording (pages 27,34)
9. Turn-off time for timer-activated recording, quick timer recording time (pages 34,48)
10. Input mode indicator
11. AUTO indicator (page 26)
12. Channel number/input mode indicator
13. Tape operation indicator (page 25)
14. Stereo program/SAP indicator (page 33)
15. REC (recording) indicator
16. Peak level meter
17. Tape speed indicator (LP is for playback only.)
18. Cassette indicator (page 24)
19. TIMER recording indicator

To be continued▶

Refer to the pages indicated for details.

Remote Commander

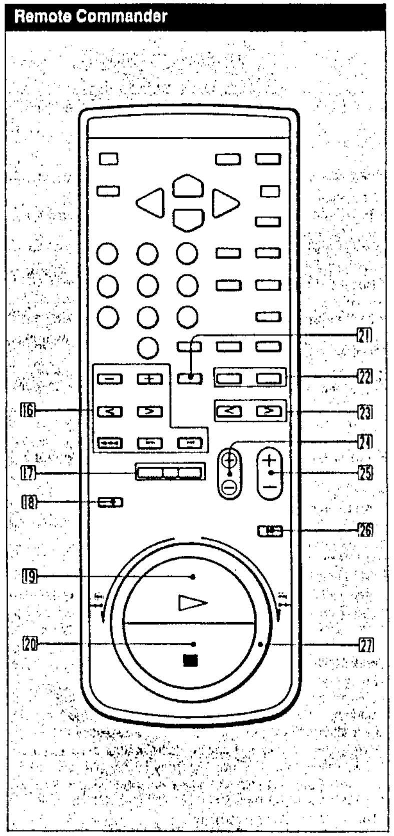


This illustration shows the Wireless Remote Commander RMT-V102A (for SLV-686HF). The Wireless Remote Commander RMT-V102 (for SLV-585HF) is the same as the RMT-V102A except for control number 23 on page 61.

1. TV/VTR remote control selector (page 14)
2. MENU button
3. EXECUTE button and cursor shift ▲/▼/◀/▶ buttons
4. Channel number buttons (page)
5. ENTER button
6. ANT TV/VTR (Antenna TV/VTR) button (page 31)
7. POWER switch (page 13)
8. COMMAND MODE 1/2/3 selector (page 14)
9. TIMER CLEAR button (page 39)
10. TIMER REC ON/OFF button (page 35)
11. INPUT SELECT button (page 30)
12. REC MODE button (page 30)
13. COUNTER RESET button (page 27)
14. DATA SCREEN button (page 26)
15. AUDIO MONITOR button (page 28)

Refer to the pages Indecated for details.

Remote Commander

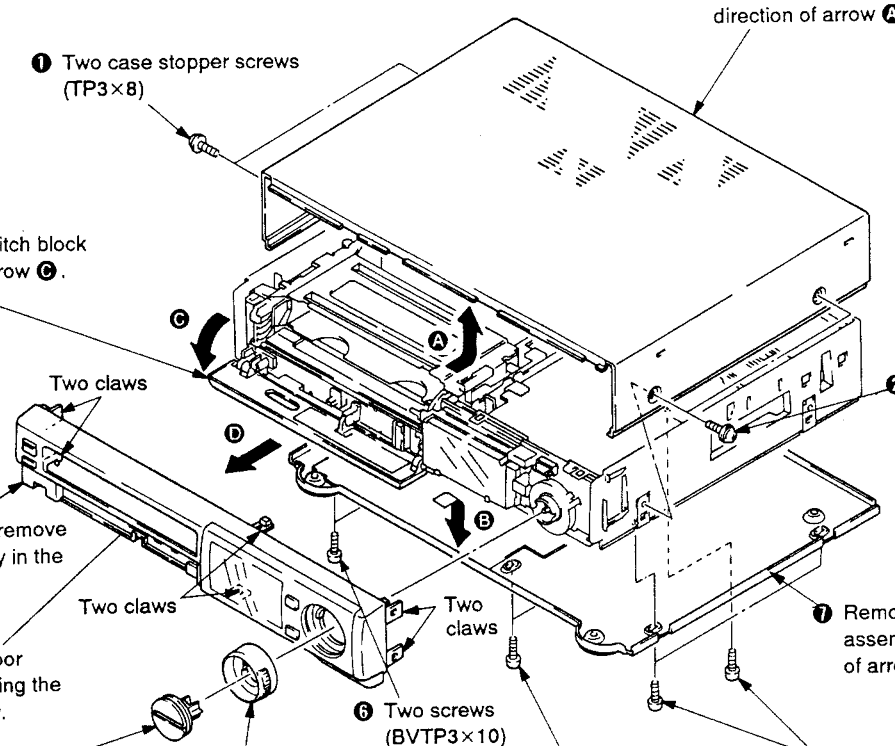


This illustration shows the Wireless Remote Commander RMT-V102A (for SLV-686HF). The Wireless Remote Commander RMT-V102 (for SLV-585HF) is the same as the RMT-V102A except for control number 23 above.

16. Tape transport buttons (pages 26,41-42)
    - I► SLOW (+: to increase the speed, –: to reduce the speed)
    - ◀II FRAME II▶ (frame-by-frame picture and tape direction for slow motion playback; >: forward / <: reverse)
    - HI-SPEED REWIND ◀◀◀
    - SEARCH (reverse/forward) ◀◀ / ▶▶
17. ● REC buttons (Press the two buttons simultaneously) (page 30)
18. SKIP button (page 41)
19. PLAY button (page 25)
20. STOP button (page 26)
21. INDEX button (page 45)
22. INDEX MARK/ERASE buttons (page 44)
23. SHUTTLE EDIT buttons (RMT-V102A for SLV-686HF only) (page 31)
24. CHANNEL +/– buttons (page 30)
25. VOL +/– buttons
26. PAUSE button (page 41)
27. DUAL MODE SHUTTLE ring (pages 26,43)

SECTION 2
DISASSEMBLY

2-1. REMOVAL OF FRONT PANEL AND CABINET ASSEMBLIES



❶ Two case stopper screws (TP3×8)

❷ Two case stopper screws (TP3×8)

❸ Remove the upper case in the direction of arrow Ⓐ.

❹ Three screws (BVTP3×10)

❺ Two screws (BVTP3×10)

❻ Two screws (BVTP3×10)

❼ Remove the bottom plate assembly in the direction of arrow Ⓑ.

❽ Open the control switch block in the direction of arrow Ⓒ.

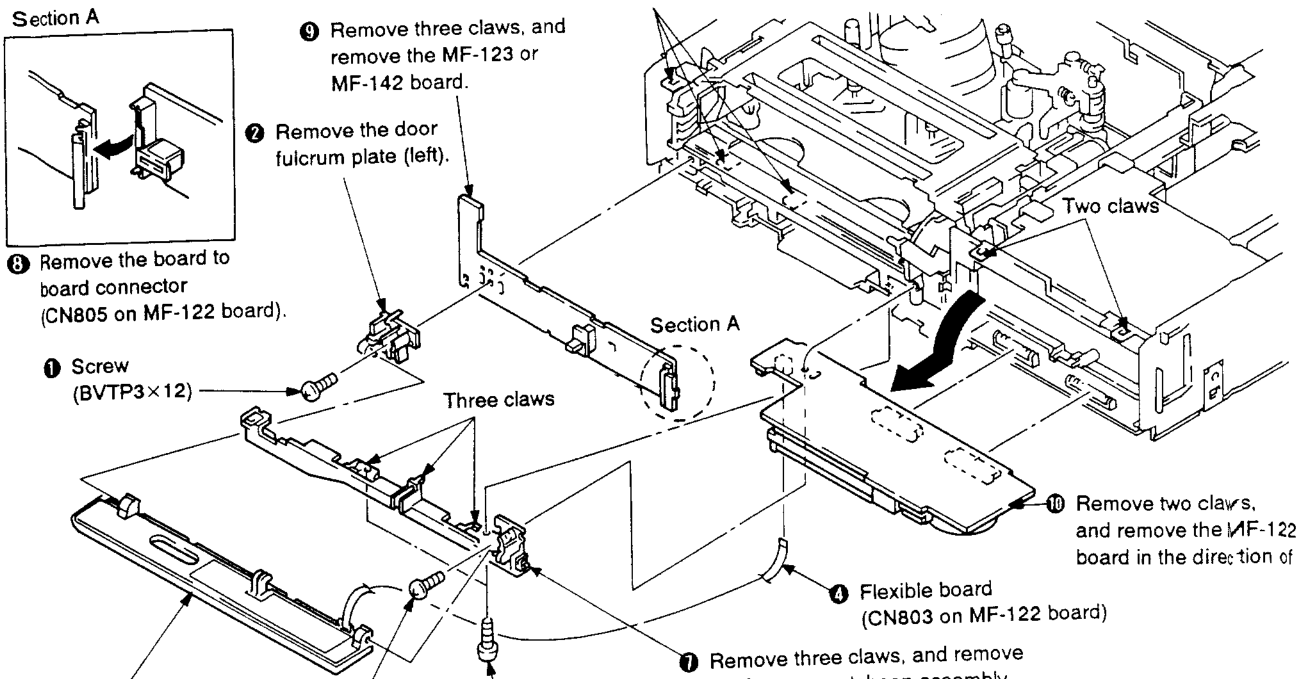
❾ PLAYBACK/STOP button assembly

❿ Shuttle ring

⓫ Remove six claws, and remove the front panel assembly in the direction of arrow Ⓓ.

Note: Keep the cassette door opened when mounting the front panel assembly.

2-2. REMOVAL OF MF-122, MF-123 OR MF-142 BOARDS AND CONTROL SWITCH BLOCK



❶ Screw (BVTP3×12)

❷ Remove the door fulcrum plate (left).

❸ Remove the board to board connector (CN805 on MF-122 board).

❹ Flexible board (CN803 on MF-122 board)

❺ Screw (BVTP3×12)

❻ Two screws (BVTP3×10)

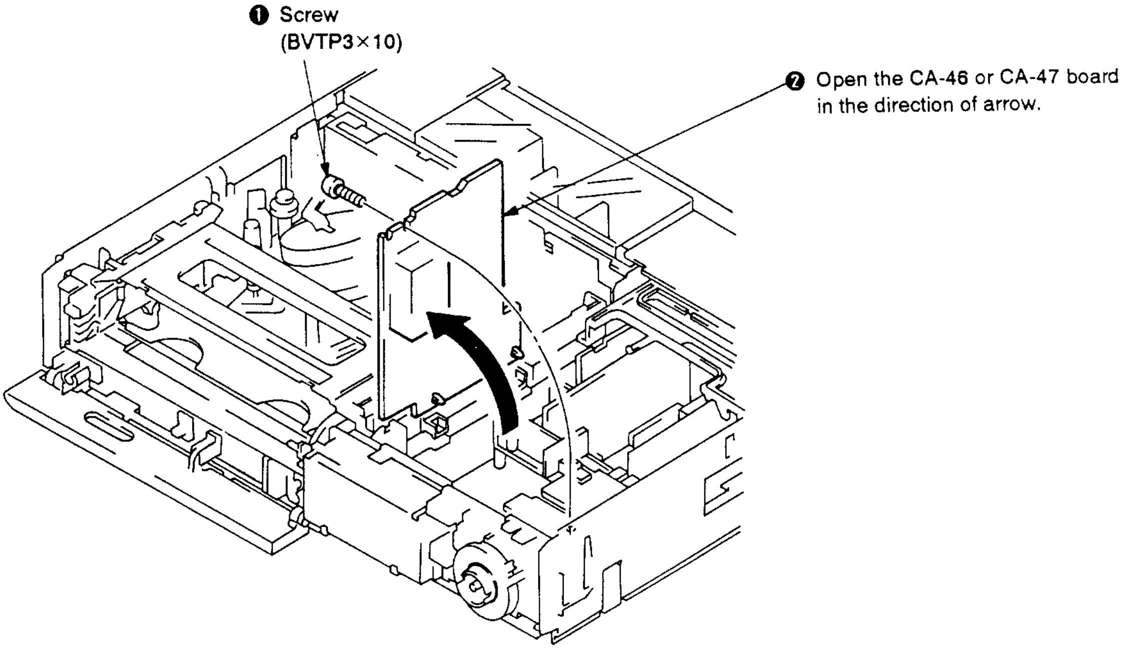
❼ Remove three claws, and remove the frame escutcheon assembly.

❽ Control switch block

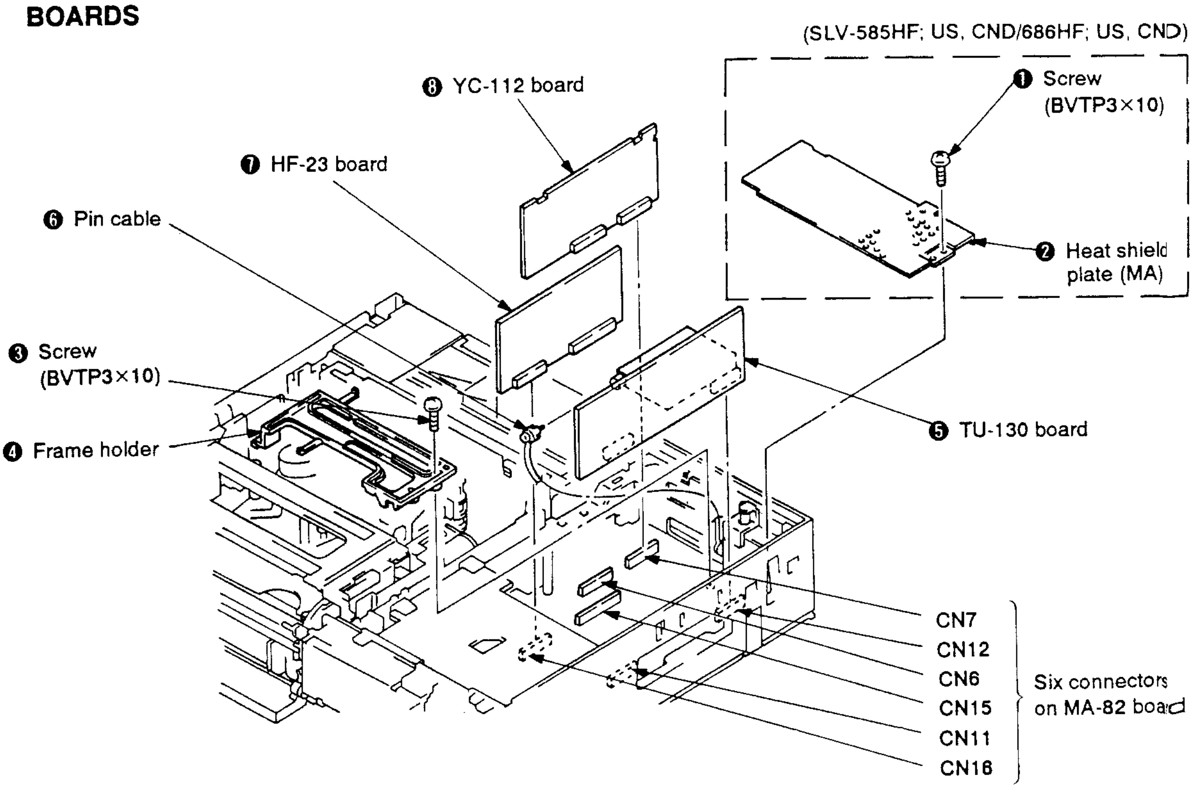
❾ Remove three claws, and remove the MF-123 or MF-142 board.

❿ Remove two claws, and remove the MF-122 board in the direction of arrow.

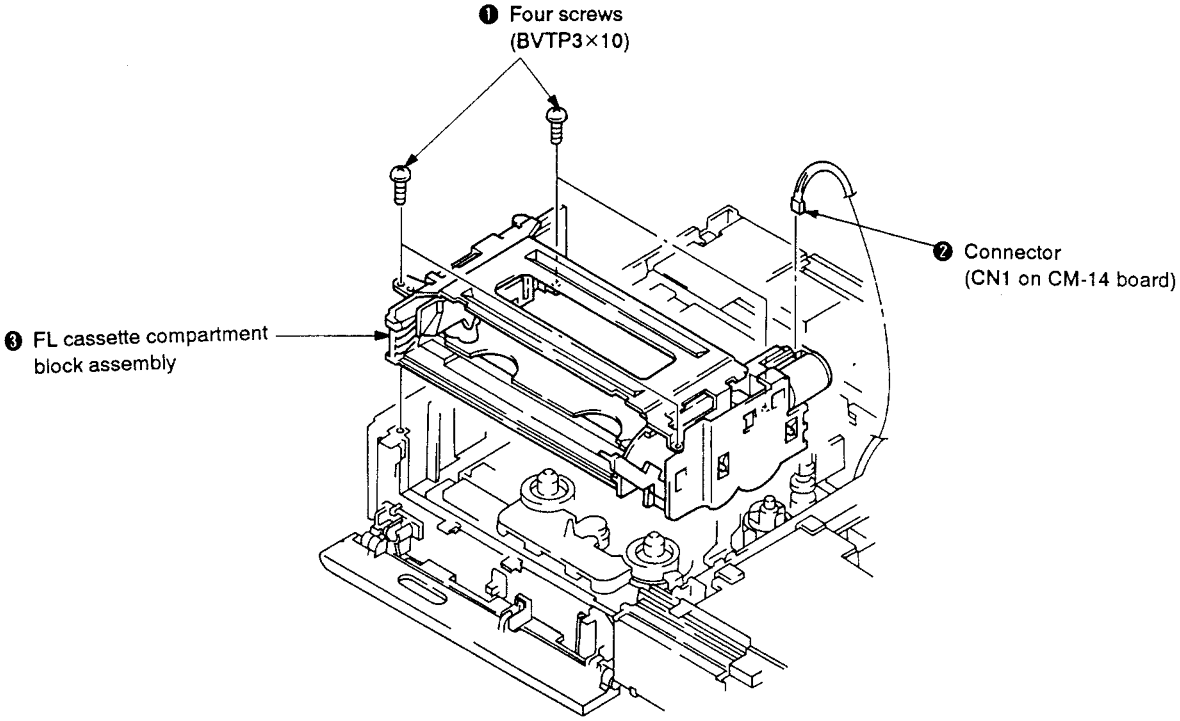
2-3. OPENING OF CA-46 OR CA-47 BOARD


❶ Screw
(BVTP3×10)
❷ Open the CA-46 or CA-47 board in the direction of arrow.

2-4. REMOVAL OF TU-130, HF-23 AND YC-112 BOARDS

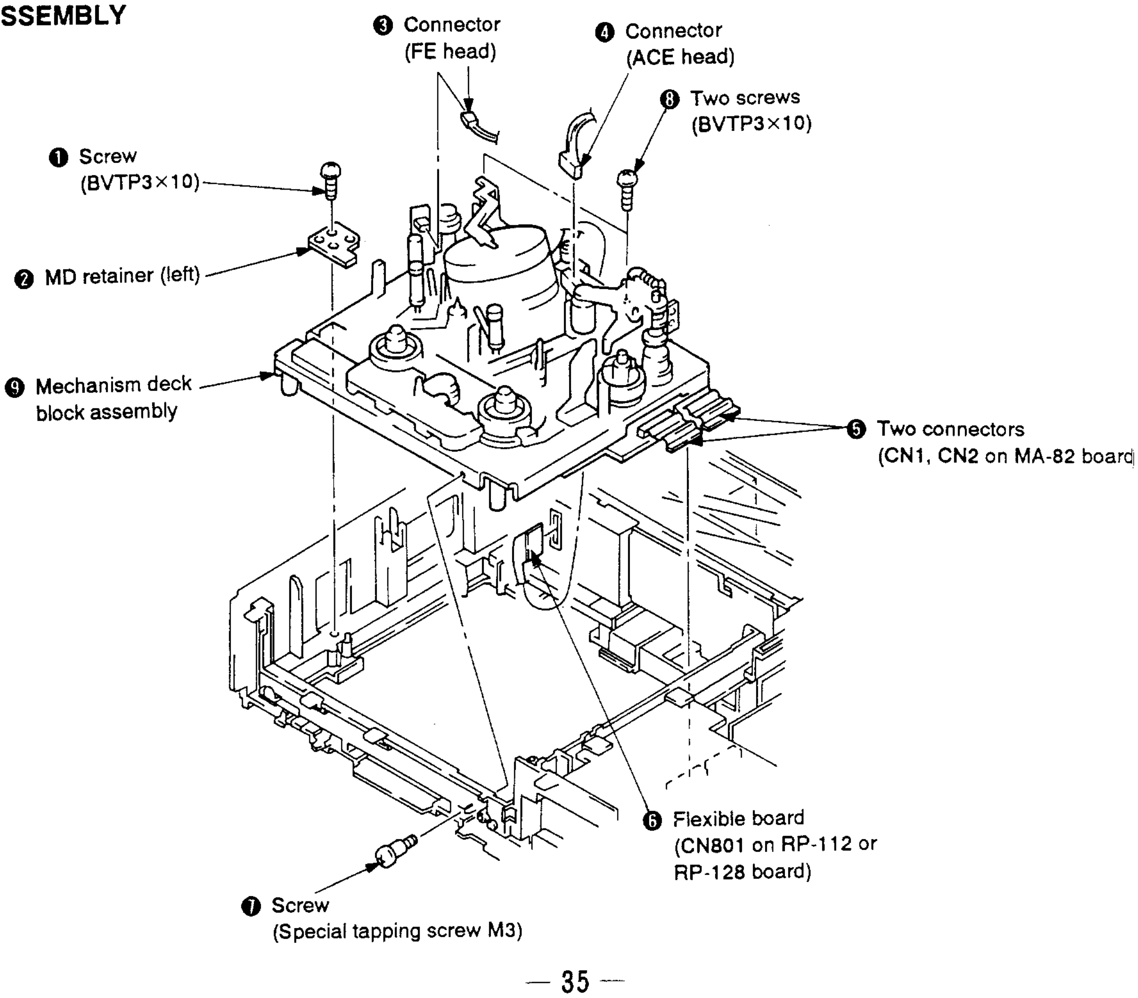

(SLV-585HF; US, CND/686HF; US, CND)
❶ Screw
(BVTP3×10)
❷ Heat shield plate (MA)
❽ YC-112 board
❼ HF-23 board
❻ Pin cable
❸ Screw
(BVTP3×10)
❹ Frame holder
❺ TU-130 board
CN7
CN12
CN6
CN15
CN11
CN16
Six connectors on MA-82 board

2-5. REMOVAL OF FL CASSETTE COMPARTMENT BLOCK ASSEMBLY



❶ Four screws (BVTP3×10)
❷ Connector (CN1 on CM-14 board)
❸ FL cassette compartment block assembly

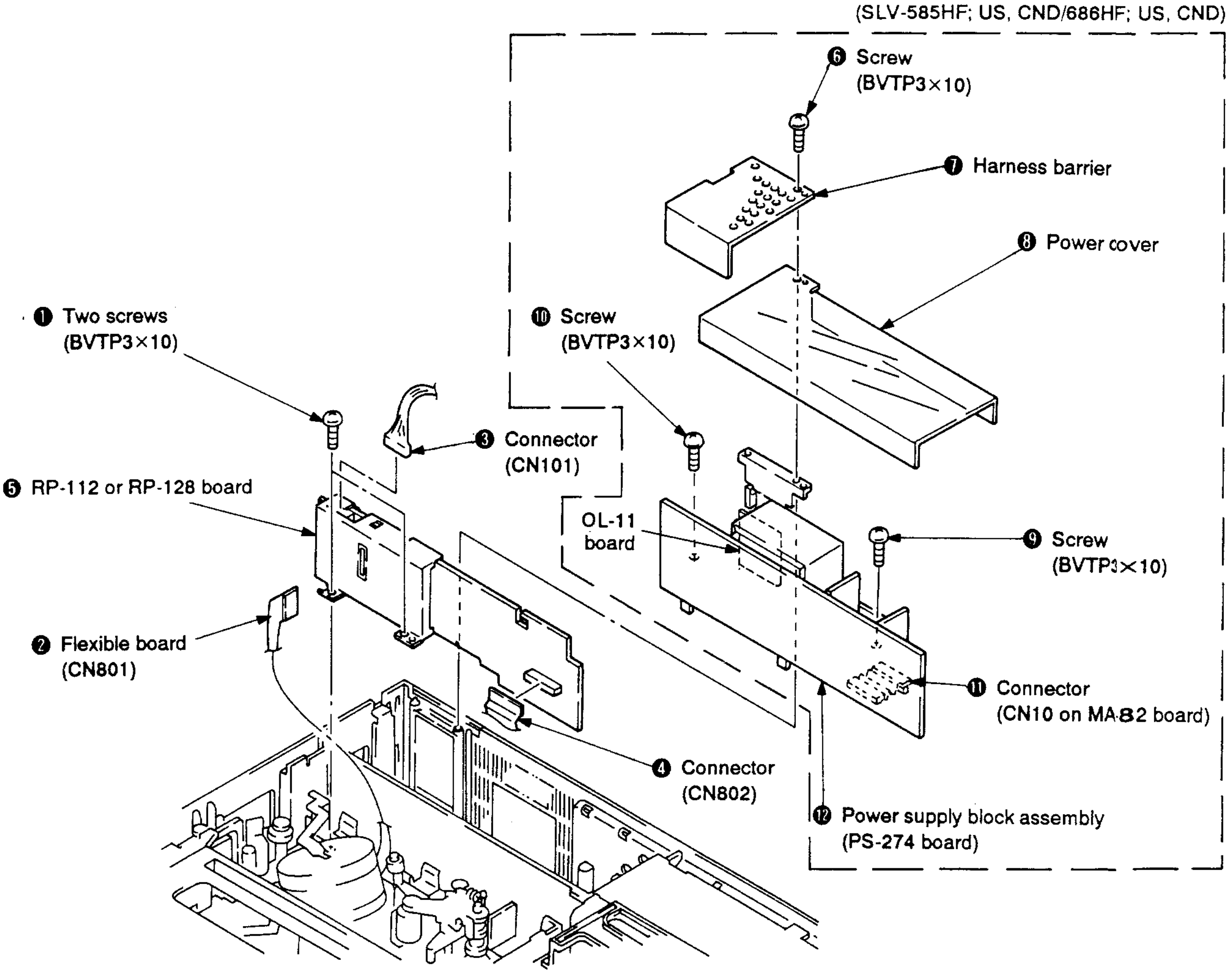
2-6. REMOVAL OF MECHANISM DECK BLOCK ASSEMBLY



❸ Connector (FE head)
❹ Connector (ACE head)
❽ Two screws (BVTP3×10)
❶ Screw (BVTP3×10)
❷ MD retainer (left)
❾ Mechanism deck block assembly
❺ Two connectors (CN1, CN2 on MA-82 board
❻ Flexible board (CN801 on RP-112 or RP-128 board)
❼ Screw (Special tapping screw M3)

2-7. REMOVAL OF RP-112 OR RP-128 BOARD AND POWER SUPPLY BLOCK ASSEMBLY (PS-274 AND OL-11 BOARDS) (SLV-585HF; US, CND/686HF; US, CND MODEL ONLY)

Note: The following parts of power supply block assemblies should be referred to the SUPPLEMENT-1.
SLV-585HF; US/686HF; US MODEL: serial No. 1,000,001 later.
SLV-585HF; CND/686HF; CND MODEL: serial No. 900,001 later.
SLV-585HF; PX/686HF; MX/589HF/71HF: serial No. 10,001 later.


(SLV-585HF; US, CND/686HF; US, CND)
❻ Screw (BVTP3×10)
❼ Harness barrier
❽ Power cover
❶ Two screws (BVTP3×10)
❿ Screw (BVTP3×10)
❸ Connector (CN101)
❺ RP-112 or RP-128 board
OL-11 board
❾ Screw (BVTP3×10)
❷ Flexible board (CN801)
⓫ Connector (CN10 on MA-82 board)
❹ Connector (CN802)
⓬ Power supply block assembly (PS-274 board)

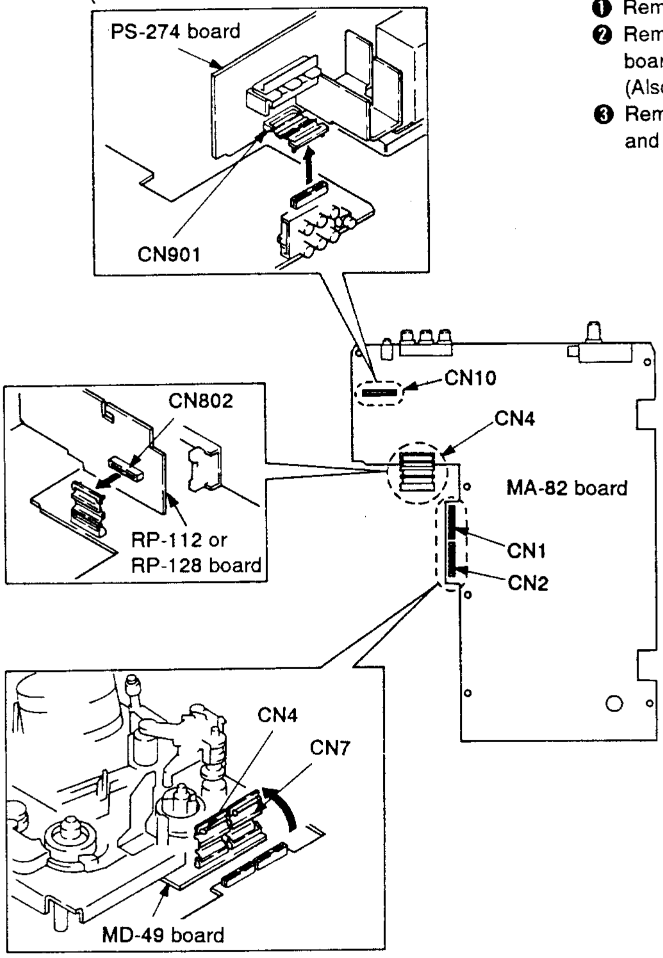
2-8. REMOVAL OF MA-82 BOARD

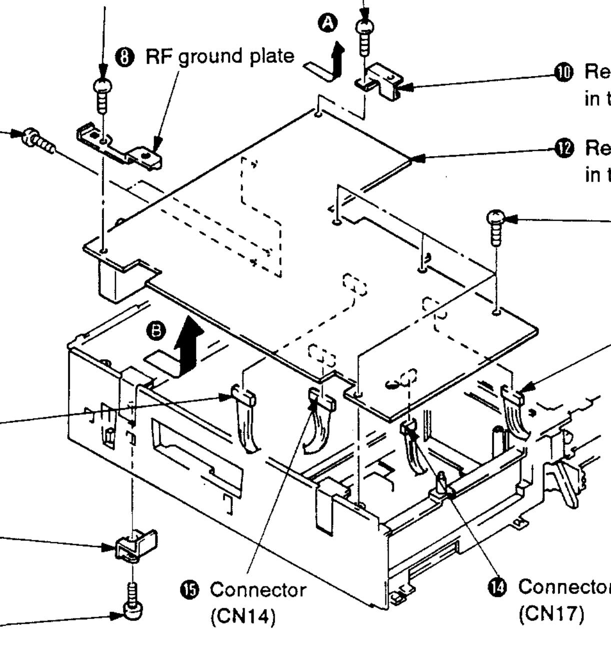
(SLV-585HF; US, CND/686HF; US, CND)

❶ Remove the MF-122 board according to 2-2.

❷ Remove the TU-130, HF-23 and YC-112 boards according to 2-4.
(Also remove the heat shield plate (MA).)

❸ Remove four connectors (CN1, CN2, CN4 and CN10) from MA-82 board.


PS-274 board
CN901
CN10
CN4
CN802
MA-82 board
CN1
CN2
RP-112 or
RP-128 board
CN4
CN7
MD-49 board



❹ Screw
(BVTP3×10)

❺ RF bracket

❻ Four screws
(BVTP3×10)

❼ Screw
(BVTP3×10)

❽ RF ground plate

❾ Screw
(BVTP3×10)

❿ Remove the JMP ground plate in the direction of arrow 🅐.

⓫ Two screws
(BVTP3×12)

⓬ Remove the MA-82 board in the direction of arrow 🅑.

⓭ Connector
(CN18)

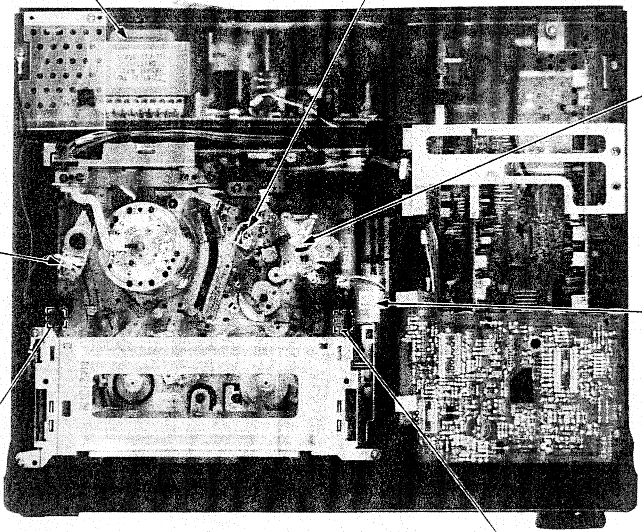
⓮ Connector
(CN17)

⓯ Connector
(CN14)

⓰ Connector
(CN3)

2-9. INTERNAL VIEWS

— Top Side —



T902
Power transformer
1-450-372-11
(SLV-585HF; US, CND/
686HF; US, CND)

ACE head block assy
A-6761-129-C

M902
Capstan motor
(U-26F) 8-835-394-11

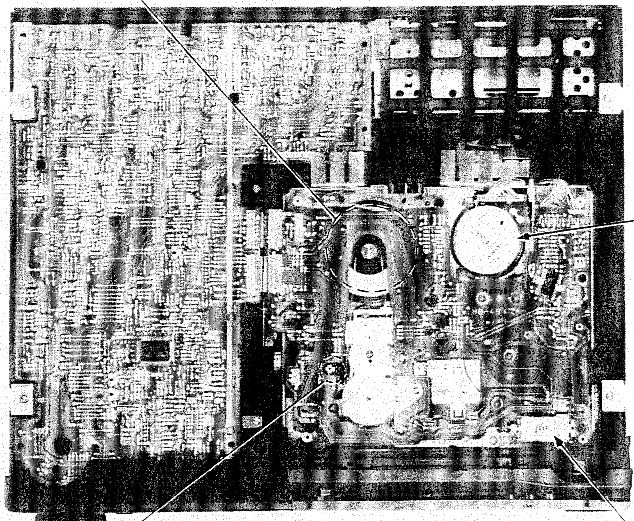
FE head
1-543-647-11

M904
Loading motor
X-3727-784-1

Q002
S reel end sensor
(Photo transistor PT483F1S)
8-729-926-31

Q001
T reel end sensor
(Photo transistor PT483F1S)
8-729-926-31

— Bottom Side —



M902
Capstan motor
(U-26F) 8-835-394-11

M901
Drum motor
(DZH-37A-R; SLV-585HF/
589HF/71HF)
8-848-554-11
(DZH-28A-R; SLV-686HF)
8-848-552-11

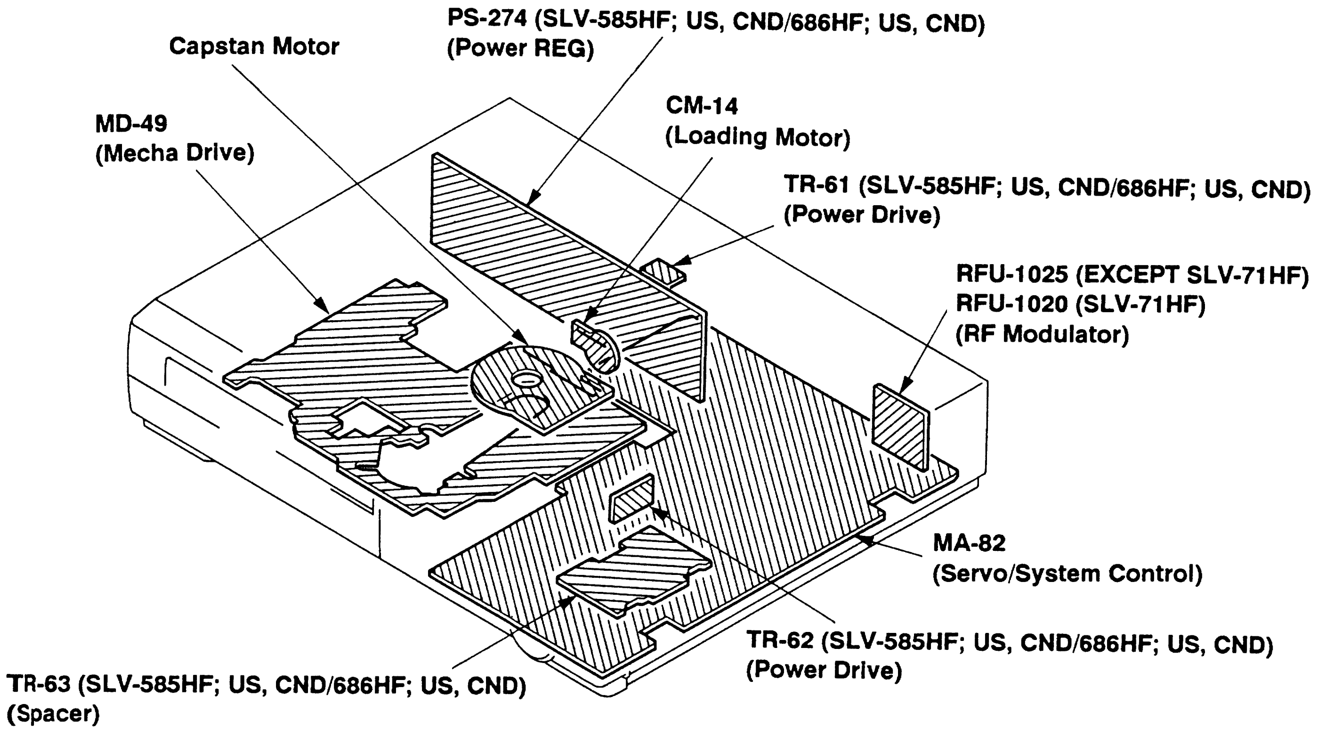
S001
Rotary switch
1-571-920-11

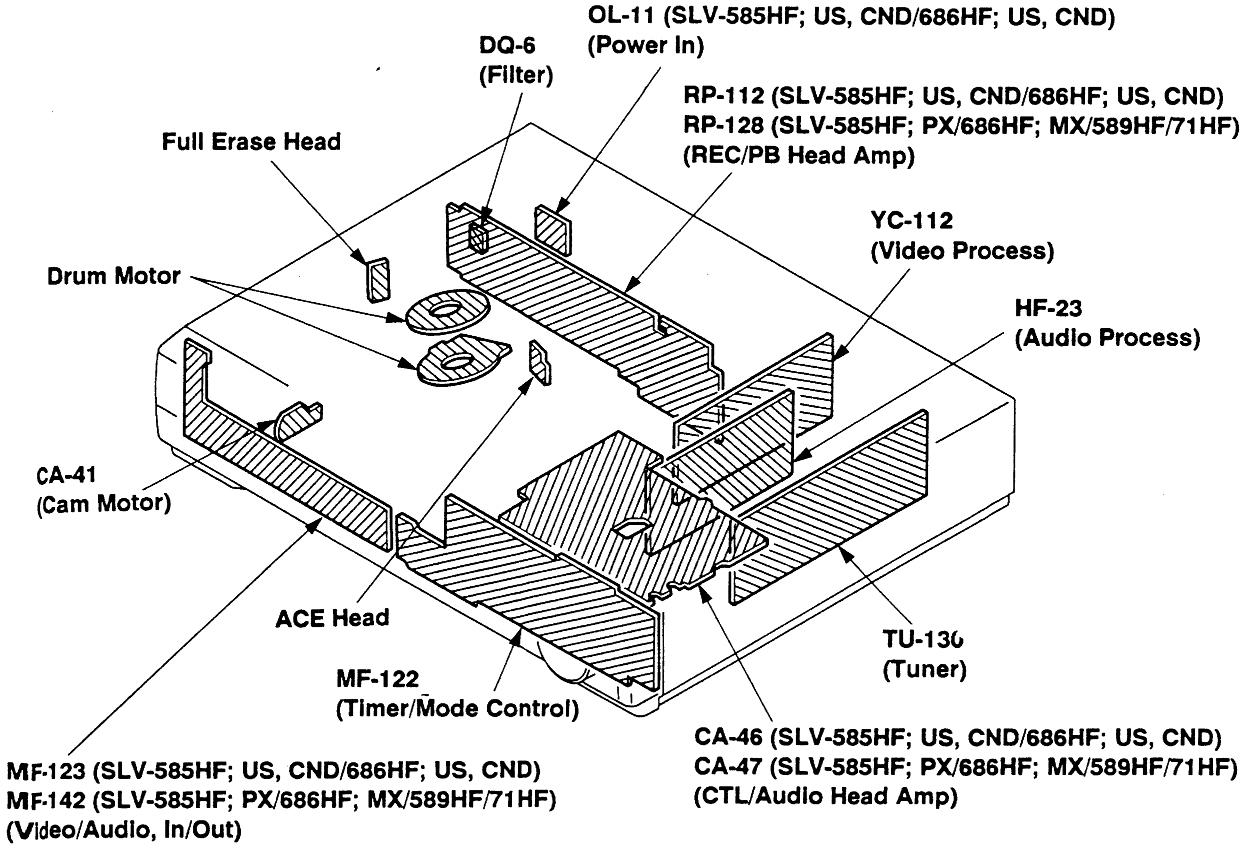
M903
Cam motor
X-3733-302-1

SECTION 3
DIAGRAMS

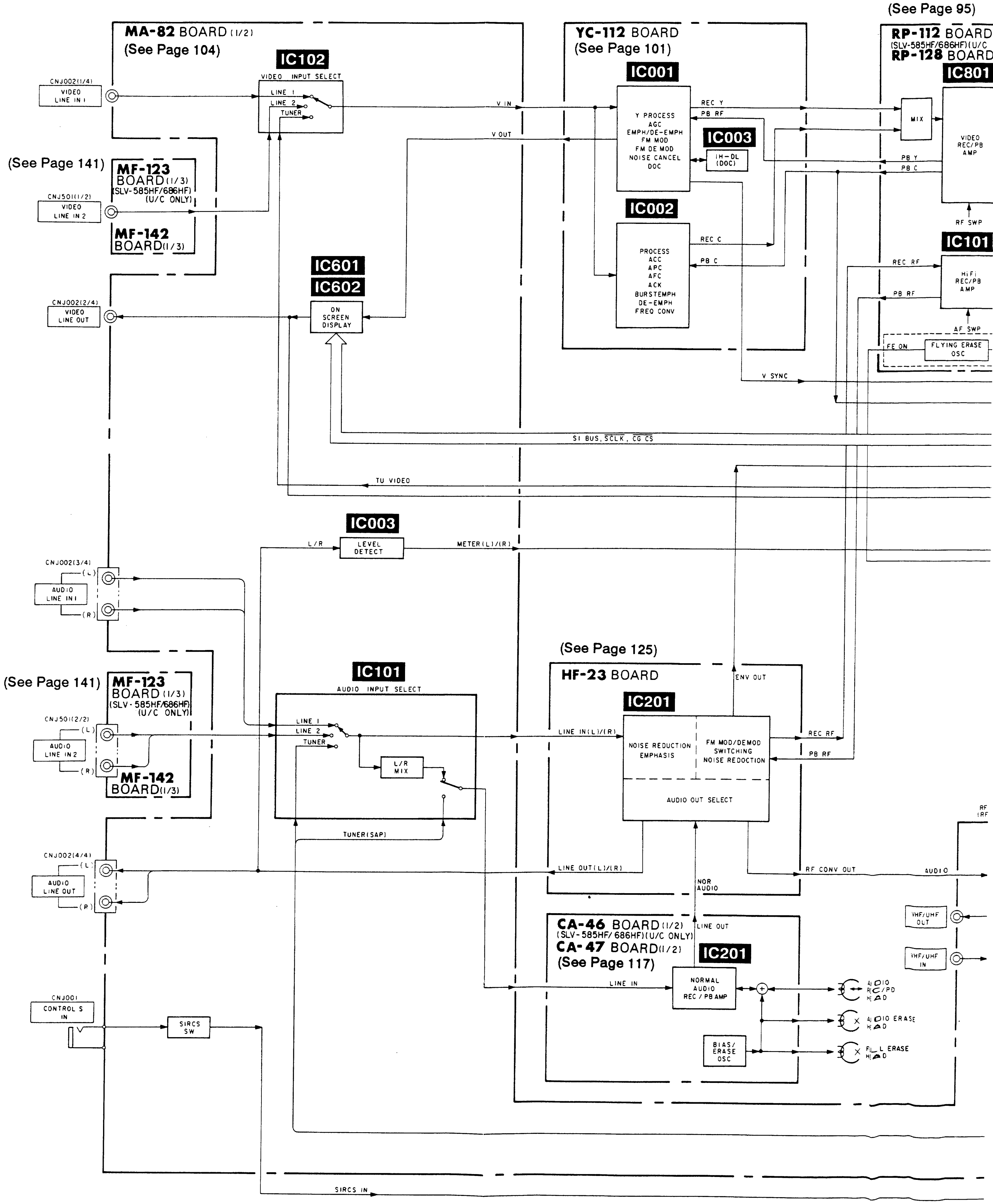
3-1. CIRCUIT BOARDS LOCATION

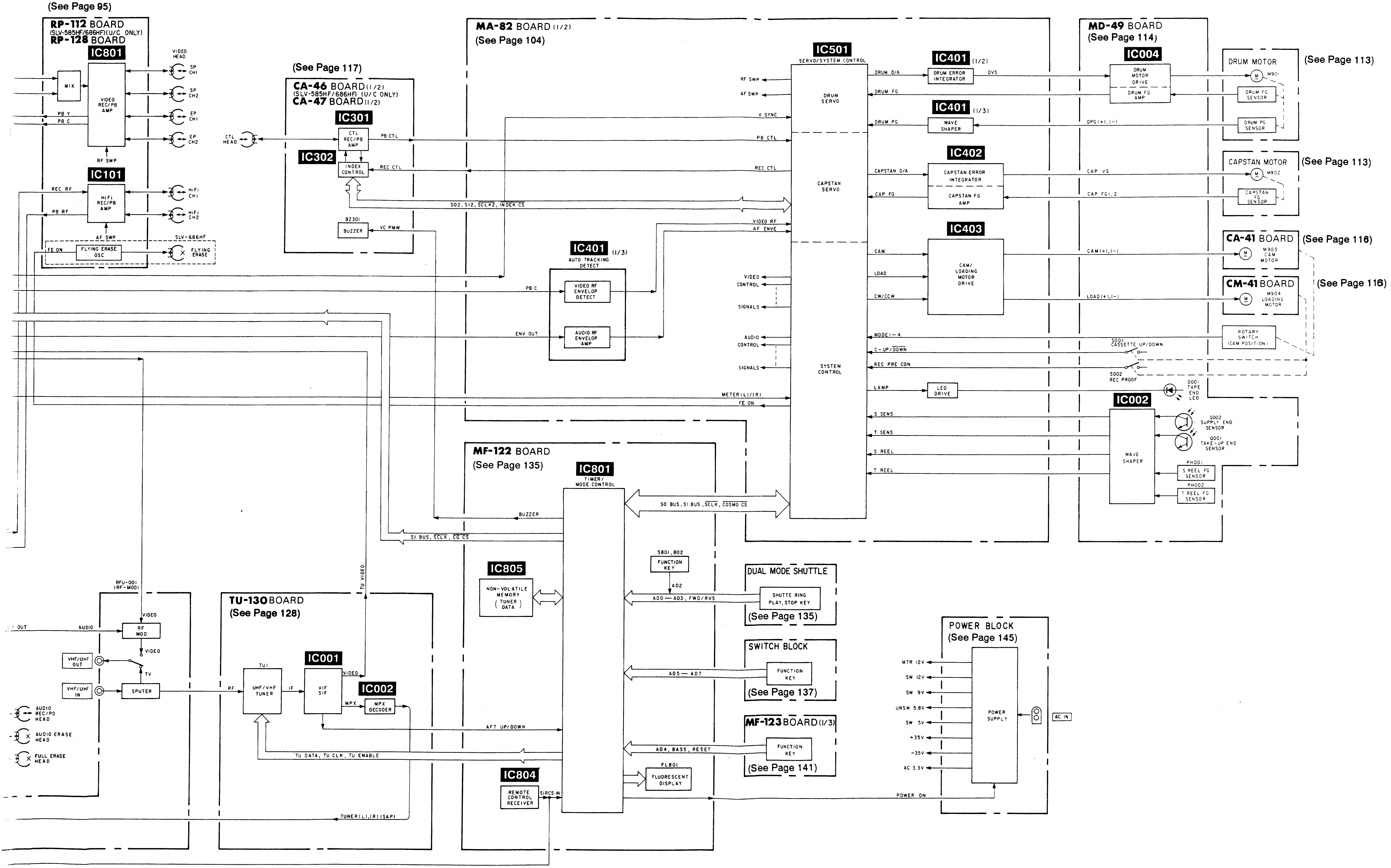
Note: The following parts of power supply block assemblies should be referred to the SUPPLEMENT-1.
SLV-585HF; US/686HF; US MODEL: serial No. 1,000,001 later.
SLV-585HF; CND/686HF; CND MODEL: serial No. 900,001 later.
SLV-585HF; PX/686HF; MX/589HF/71HF: serial No. 10,001 later.


Capstan Motor
PS-274 (SLV-585HF; US, CND/686HF; US, CND)
(Power REG)
MD-49
(Mecha Drive)
CM-14
(Loading Motor)
TR-61 (SLV-585HF; US, CND/686HF; US, CND)
(Power Drive)
RFU-1025 (EXCEPT SLV-71HF)
RFU-1020 (SLV-71HF)
(RF Modulator)
MA-82
(Servo/System Control)
TR-62 (SLV-585HF; US, CND/686HF; US, CND)
(Power Drive)
TR-63 (SLV-585HF; US, CND/686HF; US, CND)
(Spacer)

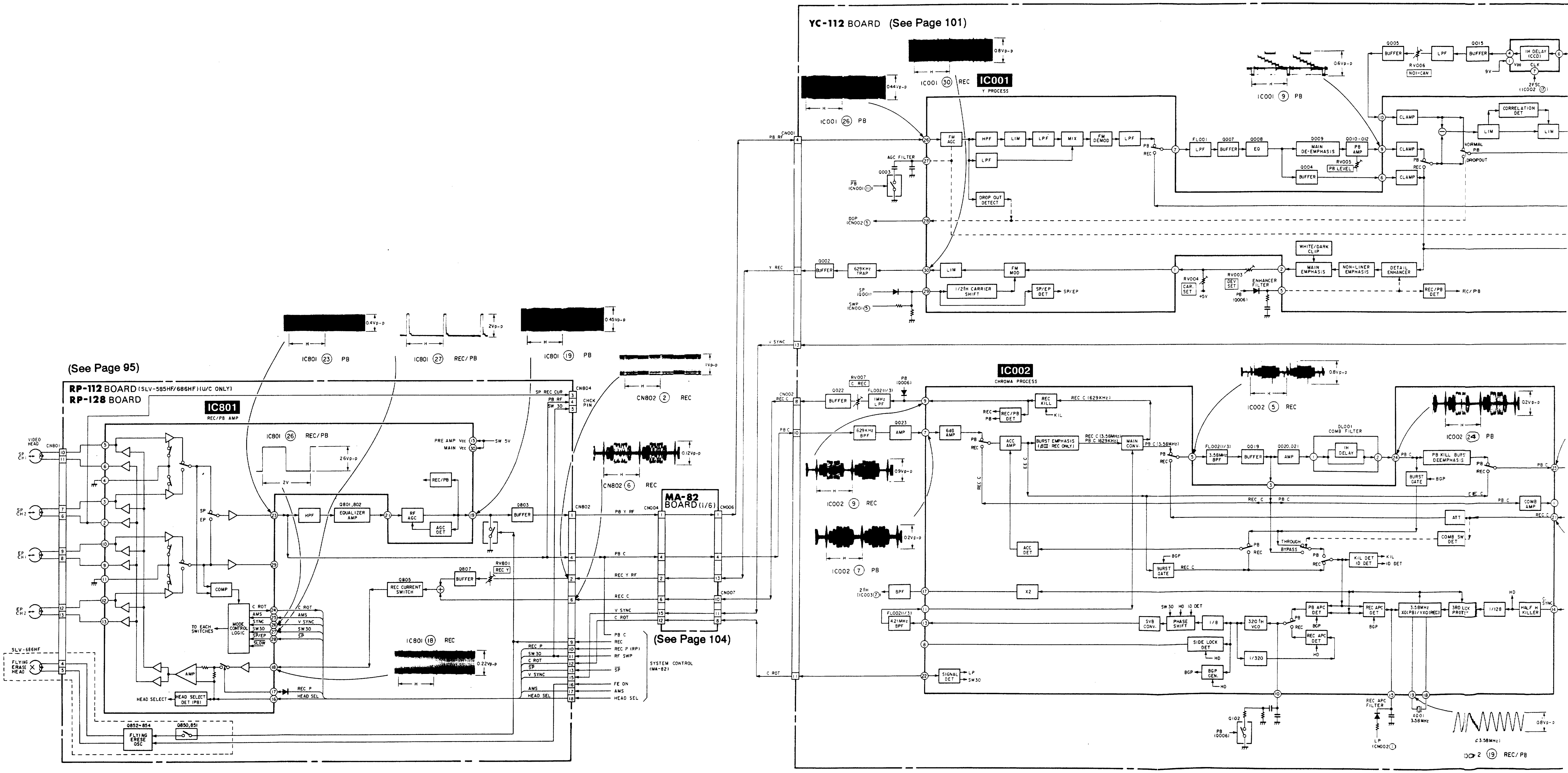

OL-11 (SLV-585HF; US, CND/686HF; US, CND)
DQ-6
(Filter)
(Power In)
RP-112 (SLV-585HF; US, CND/686HF; US, CND)
RP-128 (SLV-585HF; PX/686HF; MX/589HF/71HF)
(REC/PB Head Amp)
Full Erase Head
YC-112
(Video Process)
Drum Motor
HF-23
(Audio Process)
CA-41
(Cam Motor)
ACE Head
TU-130
(Tuner)
MF-122
(Timer/Mode Control)
CA-46 (SLV-585HF; US, CND/686HF; US, CND)
CA-47 (SLV-585HF; PX/686HF; MX/589HF/71HF)
(CTL/Audio Head Amp)
MF-123 (SLV-585HF; US, CND/686HF; US, CND)
MF-142 (SLV-585HF; PX/686HF; MX/589HF/71HF)
(Video/Audio, In/Out)

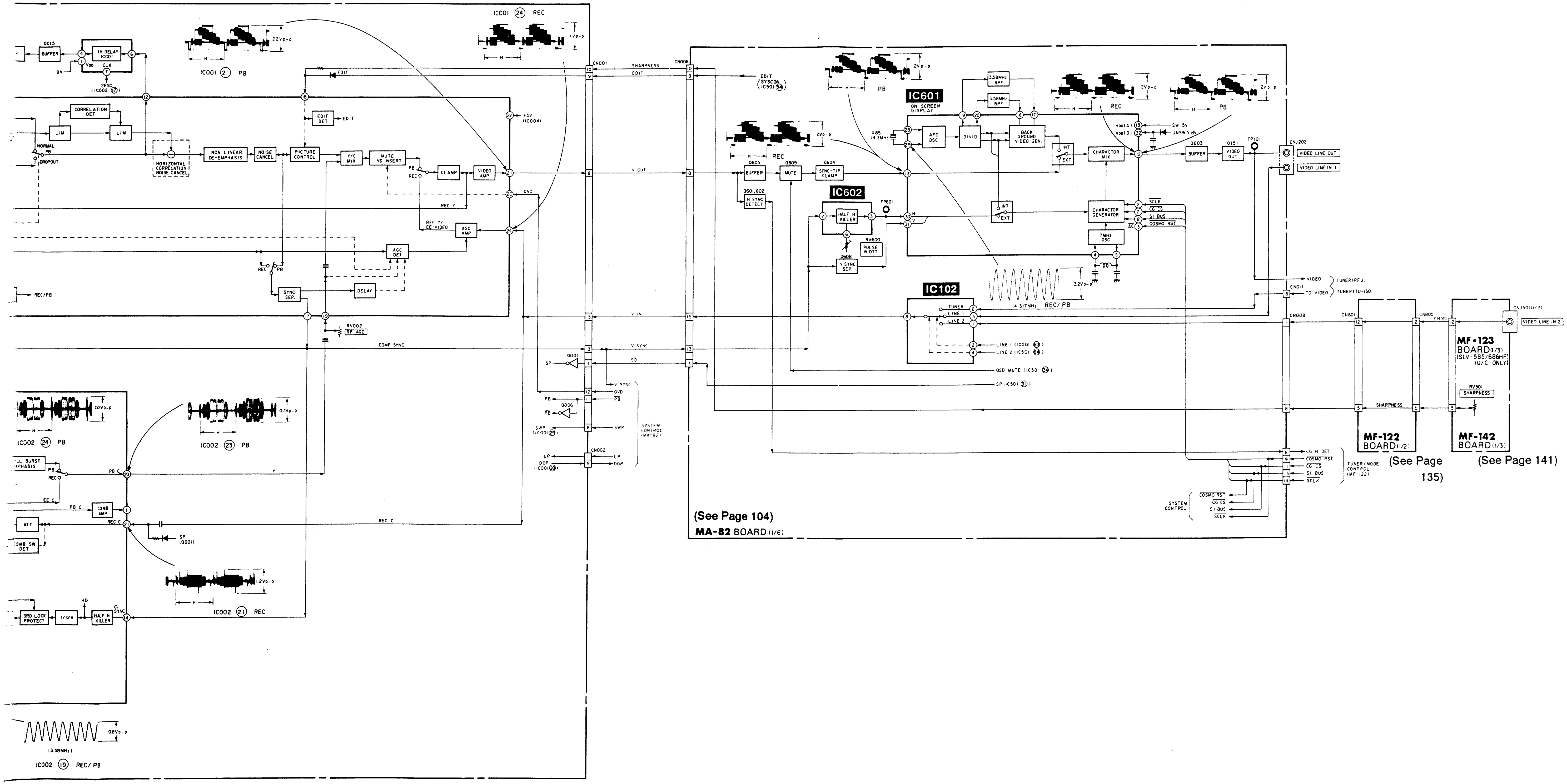
3-2. OVERALL BLOCK DIAGRAM


(See Page 95)
MA-82 BOARD (1/2)
(See Page 104)
IC102
VIDEO INPUT SELECT
LINE 1
LINE 2
TUNER
CNJ002(1/4)
VIDEO
LINE IN 1
V IN
V OUT
(See Page 141)
MF-123
BOARD (1/3)
(SLV-585HF/686HF)
(U/C ONLY)
CNJ501(1/2)
VIDEO
LINE IN 2
MF-142
BOARD (1/3)
IC601
IC602
ON
SCREEN
DISPLAY
CNJ002(2/4)
VIDEO
LINE OUT
YC-112 BOARD
(See Page 101)
IC001
Y PROCESS
AGC
EMPH/DE-EMPH
FM MOD
FM DE MOD
NOISE CANCEL
DOC
IC003
1H-DL
(DOC)
IC002
PROCESS
ACC
APC
AFC
ACK
BURSTEMPH
DE-EMPH
FREQ CONV
REC Y
PB RF
REC C
PB C
RP-112 BOARD
(SLV-585HF/686HF)(U/C
RP-128 BOARD
IC801
MIX
VIDEO
REC/PB
AMP
PB Y
PB C
RF SWP
IC101
REC RF
PB RF
HiFi
REC/PB
AMP
AF SWP
FE ON
FLYING ERASE
OSC
V SYNC
SI BUS, SCLK, CG CS
TU VIDEO
IC003
L/R
LEVEL
DETECT
METER(L)/(R)
CNJ002(3/4)
(L)
(R)
AUDIO
LINE IN 1
(See Page 141)
MF-123
BOARD (1/3)
(SLV-585HF/686HF)
(U/C ONLY)
CNJ501(2/2)
(L)
(R)
AUDIO
LINE IN 2
MF-142
BOARD (1/3)
IC101
AUDIO INPUT SELECT
LINE 1
LINE 2
TUNER
L/R
MIX
TUNER(SAP)
CNJ002(4/4)
(L)
(R)
AUDIO
LINE OUT
(See Page 125)
HF-23 BOARD
IC201
ENV OUT
LINE IN(L)/(R)
NOISE REDUCTION
EMPHASIS
FM MOD/DEMOD
SWITCHING
NOISE REDOCTION
REC RF
PB RF
AUDIO OUT SELECT
LINE OUT(L)/(R)
RF CONV OUT
AUDIO
NOR
AUDIO
RF
(RF
CA-46 BOARD (1/2)
(SLV-585HF/686HF)(U/C ONLY)
CA-47 BOARD (1/2)
(See Page 117)
LINE OUT
IC201
LINE IN
NORMAL
AUDIO
REC / PB AMP
BIAS/
ERASE
OSC
AUDIO
REC/PB
HEAD
AUDIO ERASE
HEAD
FULL ERASE
HEAD
VHF/UHF
OUT
VHF/UHF
IN
CNJ001
CONTROL S
IN
SIRCS
SW
SIRCS IN

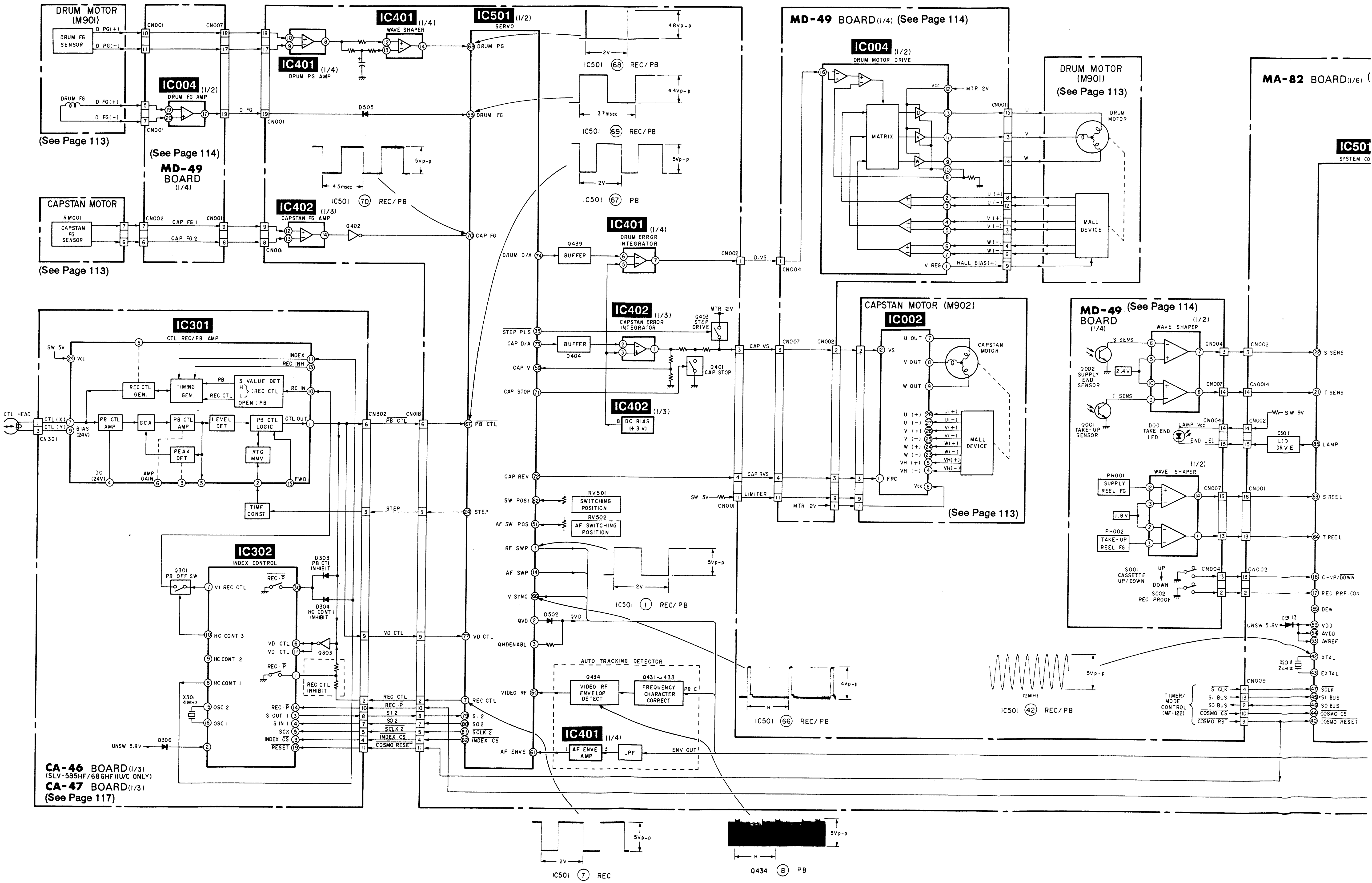

(See Page 95)
RP-112 BOARD
(SLV-585HF/686HF)(U/C ONLY)
RP-128 BOARD
IC801
MIX
VIDEO REC/PB AMP
VIDEO HEAD
SP CH1
SP CH2
EP CH1
EP CH2
PB Y
PB C
RF SWP
IC101
REC RF
PB RF
HiFi REC/PB AMP
HiFi CH1
HiFi CH2
AF SWP
SLV-686HF
FE ON
FLYING ERASE OSC
FLYING ERASE
(See Page 117)
CA-46 BOARD (1/2)
(SLV-585HF/686HF) (U/C ONLY)
CA-47 BOARD (1/2)
IC301
CTL HEAD
CTL REC/PB AMP
PB CTL
IC302
INDEX CONTROL
REC CTL
BZ301
BUZZER
VC PMW
S02, S12, SCLK2, INDEX CS
MA-82 BOARD (1/2)
(See Page 104)
IC501
SERVO/SYSTEM CONTROL
RF SWP
AF SWP
V SYNC
PB CTL
REC CTL
DRUM SERVO
CAPSTAN SERVO
SYSTEM CONTROL
VIDEO RF
AF ENVE
VIDEO CONTROL SIGNALS
AUDIO CONTROL SIGNALS
METER (L)/(R)
FE ON
IC401 (1/3)
AUTO TRACKING DETECT
PB C
VIDEO RF ENVELOP DETECT
ENV OUT
AUDIO RF ENVELOP AMP
DRUM D/A
DRUM FG
DRUM PG
IC401 (1/2)
DRUM ERROR INTEGRATOR
DVS
IC401 (1/3)
WAVE SHAPER
IC402
CAPSTAN D/A
CAPSTAN ERROR INTEGRATOR
CAP FG
CAPSTAN FG AMP
IC403
CAM
LOAD
CW/CCW
CAM/LOADING MOTOR DRIVE
MODE1-4
C-UP/DOWN
REC PRE CON
LAMP
LED DRIVE
S SENS
T SENS
S REEL
T REEL
MD-49 BOARD
(See Page 114)
IC004
DRUM MOTOR DRIVE
DRUM FG AMP
DPG(+),(-)
CAP VS
CAP FG1, 2
CAM(+),(-)
LOAD(+),(-)
S001 CASSETTE UP/DOWN
S002 REC PROOF
D001 TAPE END LED
IC002
WAVE SHAPER
Q002 SUPPLY END SENSOR
Q001 TAKE-UP END SENSOR
PH001 S REEL FG SENSOR
PH002 T REEL FG SENSOR
DRUM MOTOR
(See Page 113)
M901
DRUM FG SENSOR
DRUM PG SENSOR
CAPSTAN MOTOR
(See Page 113)
M902
CAPSTAN FG SENSOR
CA-41 BOARD
(See Page 116)
M903 CAM MOTOR
CM-41 BOARD
(See Page 116)
M904 LOADING MOTOR
ROTARY SWITCH (CAM POSITION)
MF-122 BOARD
(See Page 135)
IC801
TIMER/MODE CONTROL
SO BUS, SI BUS, SCLK, COSMD CS
BUZZER
SI BUS, SCLK, CG CS
IC805
NON-VOLATILE MEMORY (TUNER DATA)
S801, 802
FUNCTION KEY
AD2
AD0 — AD3, FWD/RVS
DUAL MODE SHUTTLE
SHUTTE RING PLAY, STOP KEY
(See Page 135)
SWITCH BLOCK
AD5 — AD7
FUNCTION KEY
(See Page 137)
MF-123 BOARD (1/3)
AD4, BASS, RESET
FUNCTION KEY
(See Page 141)
FL801
FLUORESCENT DISPLAY
IC804
REMOTE CONTROL RECEIVER
SIRCS IN
AFT UP/DOWN
TU DATA, TU CLK, TU ENABLE
TUNER (L),(R) (SAP)
TU VIDEO
RFU-001 (RF-MOD)
OUT
AUDIO
VIDEO
RF MOD
VHF/UHF OUT
VHF/UHF IN
TV
SPUTER
AUDIO REC/PB HEAD
AUDIO ERASE HEAD
FULL ERASE HEAD
TU-130 BOARD
(See Page 128)
TU1
RF
UHF/VHF TUNER
IF
IC001
VIF SIF
VIDEO
IC002
MPX
MPX DECODER
POWER BLOCK
(See Page 145)
MTR 12V
SW 12V
SW 9V
UNSW 5.8V
SW 5V
+35V
-35V
AC 3.3V
POWER SUPPLY
AC IN
POWER ON

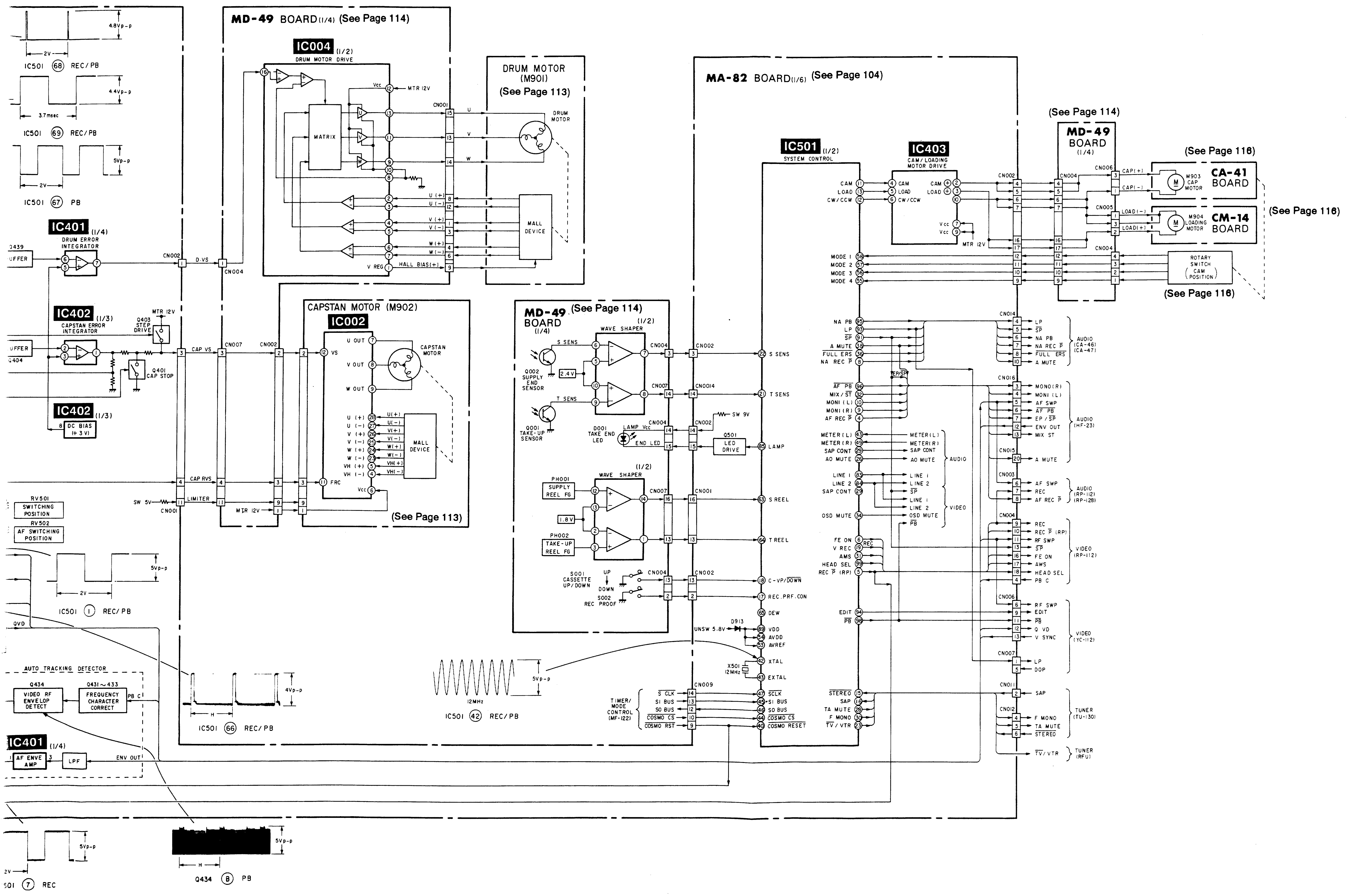
3-3. VIDEO BLOCK DIAGRAM


(See Page 95)
RP-112 BOARD (SLV-585HF/686HF) (U/C ONLY)
RP-128 BOARD
IC801
REC/PB AMP
IC801 ㉓ PB
IC801 ㉗ REC/PB
IC801 ⑲ PB
IC801 ㉖ REC/PB
IC801 ⑱ REC
CN802 ② REC
CN802 ⑥ REC
VIDEO HEAD
SP CH1
SP CH2
EP CH1
EP CH2
SLV-686HF
FLYING ERASE HEAD
HPF
Q801,802 EQUALIZER AMP
RF AGC
AGC DET
REC/PB
Q803 BUFFER
Q805 REC CURRENT SWITCH
Q807 BUFFER
RV801 REC Y
COMP
AMP
MODE CONTROL LOGIC
TO EACH SWITCHES
HEAD SELECT
HEAD SELECT DET (PB)
Q852-854 FLYING ERASE OSC
Q850,851
PRE AMP Vcc
MAIN Vcc
SW 5V
MA-82 BOARD (1/6)
(See Page 104)
SYSTEM CONTROL (MA-82)
YC-112 BOARD (See Page 101)
IC001
Y PROCESS
IC001 ㉚ REC
IC001 ㉖ PB
IC001 ⑨ PB
FM AGC
HPF
LIM
LPF
MIX
FM DEMOD
AGC FILTER
DROP OUT DETECT
FL001 LPF
Q007 BUFFER
Q008 EQ
Q009 MAIN DE-EMPHASIS
Q010-012 PB AMP
RV005 PB LEVEL
Q004 BUFFER
Q005 BUFFER
RV006 NOI-CAN
Q015 BUFFER
1H DELAY (CCD)
CLAMP
CORRELATION DET
NORMAL
DROPOUT
Q002 BUFFER
629KHz TRAP
FM MOD
1/2TH CARRIER SHIFT
SP/EP DET
RV004 CAR. SET
RV003 DEV SET
ENHANCER FILTER
WHITE/DARK CLIP
MAIN EMPHASIS
NON-LINER EMPHASIS
DETAIL ENHANCER
REC/PB DET
IC002
CHROMA PROCESS
IC002 ⑤ REC
IC002 ㉔ PB
IC002 ⑨ REC
IC002 ⑦ PB
IC002 ⑲ REC/PB
CN802 ② REC
RV007 C REC
Q022 BUFFER
FL002 1MHz LPF
629KHz BPF
Q023 AMP
6dB AMP
REC KILL
REC/PB DET
ACC AMP
BURST EMPHASIS
MAIN CONV.
FL002 3.58MHz BPF
Q019 BUFFER
Q020,021 AMP
DL001 COMB FILTER
1H DELAY
PB KILL BURST DEEMPHASIS
BURST GATE
COMB AMP
ATT
COMB SW DET
ACC DET
THROUGH
BYPASS
KIL DET
BURST GATE
X2
BPF
421MHz BPF
SVB CONV.
PHASE SHIFT
1/8
320 fH VCO
PB APC DET
REC APC DET
3.58MHz XO(PB)/VXO(REC)
3RD LCK PROT
1/128
HALF H KILLER
SIDE LOCK DET
BGP GEN.
1/320
SIGNAL DET
REC APC FILTER
X001 3.58MHz
Q102


IC001 ㉔ REC
IC001 ㉑ PB
Q015
BUFFER
1H DELAY (CCD)
2FSC (IC002 ㊲)
CORRELATION DET
LIM
NORMAL PB
DROPOUT
HORIZONTAL CORRELATION NOISE CANCEL
NON LINEAR DE-EMPHASIS
NOISE CANCEL
PICTURE CONTROL
EDIT DET
Y/C MIX
MUTE VD INSERT
CLAMP
VIDEO AMP
AGC AMP
AGC DET
SYNC SEP.
DELAY
RV002 RF AGC
COMP SYNC
REC/PB
IC002 ㉔ PB
IC002 ㉓ PB
IC002 ㉑ REC
IC002 ⑲ REC/ PB
COMB AMP
ATT
COMB SW DET
3RD LOCK PROTECT
1/128
HALF H KILLER
CN001
CN006
SHARPNESS
EDIT
V OUT
V IN
V SYNC
SD
QVD
SWP
LP
DOP
SYSTEM CONTROL (MA-82)
CN002
IC601
ON SCREEN DISPLAY
AFC OSC
DIVID
3.58MHz BPF
BACK GROUND VIDEO GEN.
CHARACTOR MIX
CHARACTOR GENERATOR
7MHz OSC
X851 14.3MHz
IC602
HALF H KILLER
RV600 PULSE WIDTH
TP601
Q605 BUFFER
Q609 MUTE
Q604 SYNC-TIP CLAMP
Q601, 602 H SYNC DETECT
Q608 V SYNC SEP.
IC102
TUNER
LINE 1
LINE 2
14.317MHz REC/ PB
Q603 BUFFER
Q151 VIDEO OUT
TP101
CNJ202
VIDEO LINE OUT
VIDEO LINE IN 1
CN011
TUNER (RFU)
TUNER (TU-130)
CN008
CN801
CN805
CN501
CNJ501 (1/2)
VIDEO LINE IN 2
MF-123 BOARD (1/3) (SLV-585/686HF) (U/C ONLY)
RV501 SHARPNESS
MF-122 BOARD (1/2)
MF-142 BOARD (1/3)
(See Page 135)
(See Page 141)
CG H DET
COSMO RST
CG CS
SI BUS
SCLK
TUNER/MODE CONTROL (MF-122)
SYSTEM CONTROL
(See Page 104)
MA-82 BOARD (1/6)

3-4. SERVO/SYSCON BLOCK DIAGRAM


DRUM MOTOR (M901)
DRUM FG SENSOR
D PG(+)
D PG(-)
DRUM FG
D FG(+)
D FG(-)
(See Page 113)
CAPSTAN MOTOR
RM001
CAPSTAN FG SENSOR
CAP FG 1
CAP FG 2
CN001
CN007
CN002
IC004 (1/2) DRUM FG AMP
(See Page 114)
MD-49 BOARD (1/4)
IC401 (1/4) DRUM PG AMP
IC401 (1/4) WAVE SHAPER
IC402 (1/3) CAPSTAN FG AMP
Q402
D505
D FG
IC501 (1/2) SERVO
DRUM PG
DRUM FG
CAP FG
4.8Vp-p
2V
IC501 68 REC/PB
4.4Vp-p
3.7msec
IC501 69 REC/PB
5Vp-p
IC501 67 PB
4.5msec
IC501 70 REC/PB
DRUM D/A
Q439 BUFFER
IC401 (1/4) DRUM ERROR INTEGRATOR
D VS
CN004
STEP PLS
CAP D/A
Q404 BUFFER
IC402 (1/3) CAPSTAN ERROR INTEGRATOR
MTR 12V
Q403 STEP DRIVE
Q401 CAP STOP
CAP V
CAP STOP
CAP VS
IC402 (1/3) DC BIAS (+3V)
PB CTL
CAP REV
CAP RVS
SW POSI
RV501 SWITCHING POSITION
AF SW POS
RV502 AF SWITCHING POSITION
SW 5V
LIMITER
STEP
RF SWP
AF SWP
V SYNC
IC501 1 REC/PB
QVD
D502
QHDENABL
AUTO TRACKING DETECTOR
Q434 VIDEO RF ENVELOP DETECT
Q431~433 FREQUENCY CHARACTER CORRECT
PB C
VIDEO RF
IC401 (1/4) AF ENVE AMP
LPF
ENV OUT
AF ENVE
VD CTL
REC CTL
S I 2
S O 2
SCLK 2
INDEX CS
4Vp-p
H
IC501 66 REC/PB
IC501 7 REC
Q434 B PB
CTL HEAD
CTL(X)
CTL(Y)
CN301
IC301 CTL REC/PB AMP
SW 5V
Vcc
INDEX
REC INH
REC CTL GEN.
TIMING GEN
3 VALUE DET H :REC CTL L OPEN : PB
RC IN
BIAS (24V)
PB CTL AMP
GCA
LEVEL DET
PB CTL LOGIC
CTL OUT
PEAK DET
RTG MMV
DC (24V)
AMP GAIN
FWD
TIME CONST
CN302
CN018
IC302 INDEX CONTROL
Q301 PB OFF SW
VI REC CTL
REC·P
D303 PB CTL INHIBIT
D304 HC CONT I INHIBIT
HC CONT 3
HC CONT 2
HC CONT 1
VD CTL
Q303
REC CTL INHIBIT
X301 4MHz
OSC 2
OSC 1
S OUT 1
S IN 1
SCK
INDEX CS
RESET
COSMO RESET
UNSW 5.8V
D306
CA-46 BOARD (1/3) (SLV-585HF/686HF)(U/C ONLY)
CA-47 BOARD (1/3)
(See Page 117)
MD-49 BOARD (1/4) (See Page 114)
IC004 (1/2) DRUM MOTOR DRIVE
MATRIX
Vcc
MTR 12V
U (+)
U (-)
V (+)
V (-)
W (+)
W (-)
V REG
HALL BIAS(+)
DRUM MOTOR (M901) (See Page 113)
DRUM MOTOR
HALL DEVICE
CAPSTAN MOTOR (M902)
IC002
U OUT
V OUT
W OUT
VS
CAPSTAN MOTOR
VH (+)
VH (-)
FRC
(See Page 113)
MD-49 BOARD (1/4) (See Page 114)
WAVE SHAPER (1/2)
S SENS
Q002 SUPPLY END SENSOR
2.4V
T SENS
Q001 TAKE-UP END SENSOR
D001 TAKE END LED
LAMP
END LED
Q101 LED DRIVE
SW 9V
PH001 SUPPLY REEL FG
PH002 TAKE-UP REEL FG
1.8V
S REEL
T REEL
S001 CASSETTE UP/DOWN
S002 REC PROOF
C-VP/DOWN
REC.PRF.CON
DEW
UNSW 5.8V
D9 13
VDD
AVDD
AVREF
XTAL
X501 12MHz
EXTAL
12MHz
IC501 42 REC/PB
TIMER/MODE CONTROL (MF-122)
S CLK
SI BUS
SO BUS
COSMO CS
COSMO RST
CN009
COSMO RESET
MA-82 BOARD (1/6)
IC501 SYSTEM CO


MD-49 BOARD (1/4) (See Page 114)
IC004 (1/2) DRUM MOTOR DRIVE
MATRIX
MTR 12V
CN001
DRUM MOTOR (M901) (See Page 113)
DRUM MOTOR
HALL DEVICE
HALL BIAS(+)
V REG
D.VS
CN002
CN004
IC401 (1/4) DRUM ERROR INTEGRATOR
IC402 (1/3) CAPSTAN ERROR INTEGRATOR
Q403 STEP DRIVE
Q401 CAP STOP
IC402 (1/3) DC BIAS (+3 V)
CAP VS
CAP RVS
LIMITER
SW 5V
CN007
CAPSTAN MOTOR (M902)
IC002
U OUT
V OUT
W OUT
CAPSTAN MOTOR
HALL DEVICE
FRC
(See Page 113)
RV501 SWITCHING POSITION
RV502 AF SWITCHING POSITION
MD-49 BOARD (1/4) (See Page 114)
WAVE SHAPER
S SENS
Q002 SUPPLY END SENSOR
T SENS
Q001 TAKE-UP SENSOR
D001 TAKE END LED
LAMP Vcc
END LED
PH001 SUPPLY REEL FG
PH002 TAKE-UP REEL FG
S001 CASSETTE UP/DOWN
S002 REC PROOF
MA-82 BOARD (1/6) (See Page 104)
IC501 (1/2) SYSTEM CONTROL
IC403 CAM/LOADING MOTOR DRIVE
Q501 LED DRIVE
SW 9V
UNSW 5.8V
D913
X501 12MHz
XTAL
EXTAL
TIMER/MODE CONTROL (MF-122)
S CLK
SI BUS
SO BUS
COSMO CS
COSMO RST
COSMO RESET
MODE 1
MODE 2
MODE 3
MODE 4
CAM
LOAD
CW/CCW
(See Page 114) MD-49 BOARD (1/4)
(See Page 116) CA-41 BOARD
M903 CAP MOTOR
CM-14 BOARD
M904 LOADING MOTOR
ROTARY SWITCH (CAM POSITION)
(See Page 116)
AUDIO (CA-46I) (CA-47I)
AUDIO (HF-23)
AUDIO (RP-112) (RP-128)
VIDEO (RP-112)
VIDEO (YC-112)
TUNER (TU-130)
TUNER (RFU)
AUTO TRACKING DETECTOR
Q434 VIDEO RF ENVELOP DETECT
Q431~433 FREQUENCY CHARACTER CORRECT
IC401 (1/4) AF ENVE AMP
LPF
ENV OUT
IC501 (68) REC/PB
IC501 (69) REC/PB
IC501 (67) PB
IC501 (1) REC/PB
IC501 (66) REC/PB
IC501 (42) REC/PB
IC501 (7) REC
Q434 (B) PB
4.8Vp-p
4.4Vp-p
5Vp-p
4Vp-p
2V
3.7msec
H
12MHz

3-5. SYSTEM CONTROL — VIDEO BLOCK INTERFACE (SLV-585HF/589HF/71HF)

Signal	Pin. No.	I/O	STOP/ FF/ REW	TAPE THREAD-ING	TAPE UNTHREAD-ING	PB	PB• PAUSE	SLOW	× 2	CUE	REVIEW	REC	REC• PAUSE
$\overline{\text{V·PB}}$	MA-82 Board IC501 (98)	O	H	H	H	L	L	L	L	L	L	H	H
HEAD SEL	MA-82 Board IC501 (99)	O	L	L	L	L	H	*1	H	L	L	H	L
RF SW P (SW30)	MA-82 Board IC501 ①	O	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2
Q VD/V MUTE	MA-82 Board IC501 ②	O	L	L	L	*3	*4	*4	*4	*4	*4	L	L
EDIT	MA-82 Board IC501 (94)	O	L	L	L	*10	*10	*10	*10	*10	*10	*10	L
AMS	MA-82 Board IC501 ㉛	O (O.D)	L	L	L	L	L	L	L	*5	*5	L	L
$\overline{\text{SP}}$	MA-82 Board IC501 (91)	O	*6	*6	*6	*7	*7	*7	*7	*7	*7	*6	*6
EP	MA-82 Board IC501 (92)	O	*6	*6	*6	*7	*7	*7	*7	*7	*7	*6	*6
LP	MA-82 Board IC501 (93)	O	L	L	L	*7	*7	*7	*7	*7	*7	L	L
REC·$\overline{\text{P}}$ (RP)	MA-82 Board IC501 ⑤	O	L	L	L	L	L	L	L	L	L	H	L
V REC	MA-82 Board IC501 (51)	O	L	L	L	L	L	L	L	L	L	H	H
V SYNC	MA-82 Board IC501 (66)	I	*8	*8	*8	*8	*8	*8	*8	*8	*8	*8	*8
$\overline{\text{OSD MUTE}}$	MA-82 Board IC501 ㉞	O (O.D)	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9

*1. "H" when tape stops. "L" when tape runs (approx. for 40 msec).
*2. Synchronized with drum rotation. 30 Hz 50% duty pulse.
*3. Normally "L". "H" when CTL signal is not generated.
*4. V period "H" pulse
*5. HI-Z (2.5V) in SP mode. "L" in EP mode.
*6. Selected by SP/EP. SP mode: "L", EP mode: "H".
*7. Selected by tape recording mode.

Mode / Signal	SP	LP	EP
$\overline{\text{SP}}$ (91)	L	H	H
EP (92)	L	L	H
LP (93)	L	H	L

*8. Composite sync signal (positive).
*9. "L" when menu screen or blue back screen.
*10. Normally "L". "H" in edit mode.

3-6. SYSTEM CONTROL — SERVO PERIPHERAL CIRCUIT INTERFACE (SLV-585HF/589HF/71

Signal	Pin. No.	I/O	STOP	FF	REW	TAPE THREAD-ING	TAPE UNTHREAD-ING	PB	PB• PAUSE
REC CTL	MA-82 Board IC501 ⑦	O	*1	*1	*1	*1	*1	*1	*1
CAP STOP	MA-82 Board IC501 (71)	O	H	L	L	L	L	L	H
$\overline{\text{STEP PLS}}$	MA-82 Board IC501 ㉟	O (O.D)	H	H	H	H	H	H	H
CAP V *3	MA-82 Board IC501 (59)	I							
SW POSITION *4	MA-82 Board IC501 (62)	I							
PB CTL	MA-82 Board IC501 (67)	I	H	*6	*6			*1	H/L
VD CTL	MA-82 Board IC501 (77)	I	H	*6	*6			*1	H/L
DRUM PG	MA-82 Board IC501 (68)	I	L	*7	*7	*5	*5	*7	*7
DRUM FG	MA-82 Board IC501 (69)	I	L	*8	*8	*5	*5	*8	*8
CAP FG	MA-82 Board IC501 (70)	I	H/L	*6	*6	*5	*5	*6	H/L
INDEX $\overline{\text{CS}}$	MA-82 Board IC501 (82)	O	*10	*10	*10	*10	*10	*10	*10
CAP RVS	MA-82 Board IC501 (72)	O	H/L	L	H	L	H	L	L
CAP DA *14	MA-82 Board IC501 (73)	O	*11	*11	*11	*11	*11	*12	*11
DRUM DA *14	MA-82 Board IC501 (74)	O	*13	*13	*13	*13	*13	*13	*13
REC·$\overline{\text{P}}$ (RP)	MA-82 Board IC501 ⑤	O	L	L	L	L	L	L	L
STEP	MA-82 Board IC502 ㉔	O	L	L	L	L	L	L	L

*1. 30 Hz pulse
*2. Pulse at tape running
*3. Input terminal for capstan constant voltage drive
Used when FF/REW, cassette loading/unloading, etc.
*4. Input terminal for video switching position adjustment.
*5. Unstable period pulse
*6. Pulse of period in proportion to tape speed
*7. 30 Hz "H" pulse

REC	REC·PAUSE
H	H
H	L
*2	*2
L	L
*10	L
L	L
*6	*6
*6	*6
L	L
H	L
H	H
*8	*8
*9	*9

3-6. SYSTEM CONTROL — SERVO PERIPHERAL CIRCUIT INTERFACE (SLV-585HF/589HF/71HF)

Signal	Pin. No.	I/O	STOP	FF	REW	TAPE THREAD-ING	TAPE UNTHREAD-ING	PB	PB·PAUSE	SLOW	× 2	CUE	REVIEW	REC	REC·PAUSE
REC CTL	MA-82 Board IC501 ⑦	O	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1
CAP STOP	MA-82 Board IC501 ⑪	O	H	L	L	L	L	L	H	H	L	L	L	L	L
$\overline{\text{STEP PLS}}$	MA-82 Board IC501 ㉟	O (O.D)	H	H	H	H	H	H	H	*2	H	H	H	H	H
CAP V *3	MA-82 Board IC501 (59)	I													
SW POSITION *4	MA-82 Board IC501 (62)	I													
PB CTL	MA-82 Board IC501 (67)	I	H	*6	*6			*1	H/L	*2	*6	*6	*6	*1	H
VD CTL	MA-82 Board IC501 (77)	I	H	*6	*6			*1	H/L	*2	*6	*6	*6	*1	H
DRUM PG	MA-82 Board IC501 (68)	I	L	*7	*7	*5	*5	*7	*7	*7	*7	*7	*7	*7	*7
DRUM FG	MA-82 Board IC501 (69)	I	L	*8	*8	*5	*5	*8	*8	*8	*8	*8	*8	*8	*8
CAP FG	MA-82 Board IC501 (70)	I	H/L	*6	*6	*5	*5	*6	H/L	*9	*6	*6	*6	*6	H/L
INDEX $\overline{\text{CS}}$	MA-82 Board IC501 (82)	O	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
CAP RVS	MA-82 Board IC501 (72)	O	H/L	L	H	L	H	L	L	*2	L	L	H	L	L
CAP DA *14	MA-82 Board IC501 (73)	O	*11	*11	*11	*11	*11	*12	*11	*11	*12	*12	*12	*12	*11
DRUM DA *14	MA-82 Board IC501 (74)	O	*13	*13	*13	*13	*13	*13	*13	*13	*13	*13	*13	*13	*13
REC·$\overline{\text{P}}$ (RP)	MA-82 Board IC501 ⑤	O	L	L	L	L	L	L	L	L	L	L	L	H	L
STEP	MA-82 Board IC502 ㉔	O	L	L	L	L	L	L	L	*15	L	L	L	L	L

*1. 30 Hz pulse
*2. Pulse at tape running
*3. Input terminal for capstan constant voltage drive
Used when FF/REW, cassette loading/unloading, etc.
*4. Input terminal for video switching position adjustment.
*5. Unstable period pulse
*6. Pulse of period in proportion to tape speed
*7. 30 Hz "H" pulse
*8. 360 Hz pulse
*9. Pulse at tape running
*10. 8 msec period pulse
*11. Approx. 2 msec period "H" or "L" pulse
*12. Approx. 1.5 msec period "H" or "L" pulse
*13. Approx. 3 msec period "H" or "L" pulse
*14. 3 value output of "H", "L" and HI-Z (2.5V)
*15. "H" when FWD direction and STEP drive

3-7. SYSTEM CONTROL — MECHANISM BLOCK INTERFACE (SLV-585HF/589HF/71HF)

Signal	Pin. No.	I/O	HI-SPEED REW	EJECTED	CASSETTE LOADING	CASSETTE UNLOAD-ING	TAPE THREAD-ING	TAPE UNTHREAD-ING	STOP	FF	REW	PB	PB• PAUSE	SLOW	× 2	CUE	REVIEW	REC	REC• PAUSE
CAM *1	MA-82 Board IC501 ⑪	O	L	L	L	L	H	H	L	L	L	L	L	L	L	L	L	L	L
LOAD	MA-82 Board IC501 ⑬	O	L	L	H	H	L	L	L	L	L	L	L	L	L	L	L	L	L
CW/CCW	MA-82 Board IC501 ⑫	O			H	L	H	L											
MODE 1	MA-82 Board IC501 (58)	I	H	L	L	L	H	H	L	H	H	H	L	L	H	H	H	H	L
MODE 2	MA-82 Board IC501 (57)	I	L	H	H	H	H	H	L	L	L	L	H	H	L	L	L	L	H
MODE 3	MA-82 Board IC501 (56)	I	H	H	H	H	L	L	L	L	L	H	H	H	H	H	L	H	H
MODE 4	MA-82 Board IC501 (55)	I	H	H	H	H	H	H	L	H	H	L	L	L	L	L	L	L	L
REC PRF	MA-82 Board IC501 ⑰	I	*2	L	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2
C-UP/DOWN	MA-82 Board IC501 ⑱	I	L	H	H→L	L→H	L	L	L	L	L	L	L	L	L	L	L	L	L
T REEL	MA-82 Board IC501 (64)	I	*3	H/L	H/L	H/L	H/L	H/L	H/L	*3	*3	*3	H/L	*3	*3	*3	*3	*3	H/L
S REEL	MA-82 Board IC501 (63)	I	*3	H/L	H/L	H/L	*3	*3	H/L	*3	*3	*3	H/L	*3	*3	*3	*3	*3	H/L
LAMP	MA-82 Board IC501 (85)	O	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4
DEW	MA-82 Board IC501 (65)	I	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5
CAP V	MA-82 Board IC501 (59)	I	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6
CAP STOP	MA-82 Board IC501 (71)	O	L	H	H	H	L	L	H	L	L	L	H	H	L	L	L	L	H
CAP RVS	MA-82 Board IC501 (72)	O	H	H			L	H	H/L	L	H	L	L	L/*9	L	L	H	L	L
CAP DA *8	MA-82 Board IC501 (73)	O																	
T SENS	MA-82 Board IC501 ㉑	I	*7	*4	*4	*4	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7
S SENS	MA-82 Board IC501 ㉒	I	*7	*4	*4	*4	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7

*1. "H" when mechanism mode transition
*2. "L" when erasing protection tab is bent. "H" when not bent.
*3. Pulse of period in proportion to reel rotating speed
*4. Approx. 2 msec period "H" pulse
*5. Normally "H"
*6. Input terminal for capstan constant voltage drive. Used in FF/REW, cassette loading/unloading, etc.
*7. Normally "L". 2 msec period "H" pulse when tape top or tape end is detected.
*8. 3 value output of "H", "L" and "HIZ (2.5V)"
*9. Pulse at tape running

3-8. SYSTEM CONTROL — SYSTEM CONTROL PERIPH
(SLV-585HF/589HF/71HF)

Signal	Pin. No.	I/O	
$\overline{\text{COSMO•RESET}}$	MA-82 Board IC501 (41)	I	Normally "H". "L" when service
$\overline{\text{COSMO•CS}}$	MA-82 Board IC501 (44)	I	Chip select signal from timer m
SI•BUS	MA-82 Board IC501 (45)	I	Serial communication data fror
SO•BUS	MA-82 Board IC501 (46)	O	Serial communication data to ti
S CLK	MA-82 Board IC501 (47)	I	Serial communication clock wit
S IN 2	MA-82 Board IC501 (79)	I	Serial communication data fror
S OUT 2	MA-82 Board IC501 (80)	O	Serial communication data to i
S CLK 2	MA-82 Board IC501 (81)	O	Serial communication clock to
INDEX $\overline{\text{CS}}$	MA-82 Board IC501 (82)	O	Chip select signal to index IC.

CONTROL PERIPHERAL CIRCUIT INTERFACE

I/O level
ally "H". "L" when service interruption is detected or restored.
select signal from timer microprocessor. V period "L" pulse.
communication data from timer microprocessor. V period "L" pulse.
communication data to timer microprocessor. V period "L" pulse.
communication clock with timer microprocessor. V period "L" pulse.
communication data from index IC. 16 msec period "L" pulse.
communication data to index IC. 8 msec period "L" pulse.
communication clock to index IC. 8 msec period "L" pulse.
elect signal to index IC. 8 msec period "L" pulse.

3-9. SYSTEM CONTROL — AUDIO BLOCK INTERFACE (SLV-585HF/589HF/71HF)

Signal	Pin. No.	I/O	STOP/ FF/ REW	TAPE LOADING	TAPE UNLOAD-ING	PB	PB• PAUSE	SLOW	× 2	CUE	REVIEW	REC	REC• PAUSE
$\overline{\text{AF PB}}$	MA-82 Board IC501 (96)	O	H	H	H	L	L	L	L	L	L	H	H
MONI (L)	MA-82 Board IC501 ⑩	O	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1
MONI (R)	MA-82 Board IC501 ⑨	O	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1
AF ENVELOP	MA-82 Board IC501 (61)	I	AF RF envelope signal input terminal for automatic tracking.										
NA PB	MA-82 Board IC501 (95)	O	L	L	L	H	H	H	H	H	H	L	L
A MUTE	MA-82 Board IC501 ㊳	O (O.D)	L	L	L	*4	H	H	H	H	H	L	L
$\overline{\text{SP}}$	MA-82 Board IC501 (91)	O	*2	*2	*2	*3	*3	*3	*3	*3	*2	*2	*2
NA REC•$\overline{\text{P}}$	MA-82 Board IC501 ⑧	O	L	L	L	L	L	L	L	L	L	H	L
AF REC$\overline{\text{P}}$	MA-82 Board IC501 ④	O	L	L	L	L	L	L	L	L	L	H	L
AF SWP	MA-82 Board IC501 ⑭	O	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5
AF SW POSITION	MA-82 Board IC501 (51)	I	Input terminal for AF switching position adjustment.										
AO MUTE *6	MA-82 Board IC501 ㉖	O	L	L	L	*7	H	H	H	H	H	L	L
MIX/$\overline{\text{ST}}$	MA-82 Board IC501 ㉜	O (O.D)	L	L	L	*8	*8	*8	*8	*8	*8	L	L
METER (L)	MA-82 Board IC501 ㊽	I	Input terminal for the audio level meter (left) indication.										
METER (R)	MA-82 Board IC501 ㊾	I	Input terminal for the audio level meter (right) indication.										
$\overline{\text{FULL ERS}}$	MA-82 Board IC501 ㊱	O (O.D)	H	H	H	H	H	H	H	H	H	L	H

*1. Selected by audio monitor.

Audio monitor Signal	STEREO OR MAIN, SUB, L, R	MAIN L	SUB R	(NORMAL)
MONI (L) ⑩	H	H	L	L
MONI (R) ⑨	H	L	H	L

*2. Selected by SP/EP selector. SP mode: "L", EP mode: "H".
*3. Selected by tape recording mode. SP mode: "L", EP mode: "H".
*4. "H" when CTL signal is not played back.
*5. 30 Hz, 50% duty pulse approx. 5 msec delayed from RF SW P.
*6. "H" when power ON/OFF selected.
*7. "H" when CTL signal is not played back.
*8. "H" when hi-fi/NORMAL MIX ON.

3-10. SYSTEM CONTROL — TUNER BLOCK INTERFACE (SLV-585HF/589HF/71HF)

Signal	Pin. No.	I/O	I/O level
$\overline{\text{STEREO}}$	MA-82 Board IC501 ⑮	I	Tuner audio mode input terminal. "L" when stereo.
TAMUTE	MA-82 Board IC501 ㉘	O	Tuner audio mute output. "H" when not used channel is selected.
SAP CONT	MA-82 Board IC501 ㉙	O	"H" when SAP is selected for normal audio recording
$\overline{\text{F MONO}}$	MA-82 Board IC501 ㉚	O	"L" when tuner audio and auto stereo are turned OFF

3-11. SYSTEM CONTROL AND RF MODULATOR — INPUT SELECTION BLOCK INTERFACE (SLV-585HF/589HF/71HF)

Signal	Pin. No.	I/O	I/O level
TV/VTR	MA-82 Board IC501 ㉓	O	"L" when RF modulator through.
LINE 1	MA-82 Board IC501 (83)	O	*1. Input select control signal
LINE 2	MA-82 Board IC501 (84)	O	

*1.

Input Signal	Tuner	LINE 1	LINE 2
LINE 1 (83)	L	H	L
LINE 2 (84)	L	L	H

3-12. SERVO/SYSTEM CONTROL — MICROPROCESSOR TERMINAL FUNCTION (MA-82 BOARD IC501) (SLV-585HF/589HF/71HF)

Pin. No.	Port	I/O	Signal	Function
1	PB5/PPO13	O	RF SWP	Video switching pulse output
2	PB4/PPO12	O	Q VD	False VD pulse output
3	PB3/PPO11	O	Q HD ENABI	
4	PB2/PPO10	O	AF REC $\overline{\text{P}}$	"H" output when hi-fi audio REC
5	PB1/PPO9	O	REC $\overline{\text{P}}$	"H" output when video REC
6	PB0/PPO8	O	FE ON	Flaying erase ON/OFF output. Not used.
7	PC7/RTO7	O	REC CTL	REC CTL output
8	PC6/RTO6	O	NA REC $\overline{\text{P}}$	"H" when normal audio REC
9	PC5/RTO5	O	MONI (R)	Audio output control signal
10	PC4/RTO4	O	MONI (L)	
11	PC3/RTO3	O	CAM	CAM motor drive output
12	PC2/PPO18	O	CW/$\overline{\text{CCW}}$	Clockwise/counterclockwise signal output
13	PC1/PPO17	O	LOAD	Load motor drive output
14	PC0/PPO16	O	AF SWP	hi-fi switching pulse output
15	PJ7	I	$\overline{\text{STEREO}}$	Tuner audio mode input
16	PJ6	I	$\overline{\text{BILING}}$	Tuner audio mode input
17	PJ5	I	REC PRF	Erasing protection tab, cassette IN detection input
18	PJ4	I	C UP/$\overline{\text{DOWN}}$	Cassette up/down detection input
19	PJ3	O	V REC	"L" output when video playback
20	PJ2	O	V MUTE	Video mute output
21	PJ1	I	T SENS	T end sensor input
22	PJ0	I	S SENS	S end sensor input
23	PD7	O	$\overline{\text{TV}}$/VTR	Antenna output select signal. "H": VTR, "L": TV.
24	PD6	O	STEP DRIVE	"H" when capstan STEP is driven.
25	PD5	O	BASS BOOST	Not used
26	PD4	O	$\overline{\text{A OUT MUTE}}$	Audio output MUTE signal
27	PD3	O		Not used
28	PD2	O	TA MUTE	Tuner audio MUTE signal
29	PD1	O	SAP CONT	SAP control signal
30	PD0	O	$\overline{\text{F MONO}}$	Tuner forced monaural signal
31	PH7	O	AMS	AMS control output
32	PH6	O	MIX/$\overline{\text{ST}}$	"H" when hi-fi MIX
33	PH5	O		Not used
34	PH4	O	$\overline{\text{OSD MUTE}}$	Video output mute signal
35	PH3	O	$\overline{\text{STEP PLS}}$	"L" when capstan step drive
36	PH2	O	$\overline{\text{FULL ERS}}$	"L" when full erase head operation
37	PH1	O		Not used
38	PH0	O	A MUTE	Audio MUTE output
39	MP	I	MP	Fixed at "L" level
40	$\overline{\text{RST}}$	I	$\overline{\text{COSMO RST}}$	System reset input
41	Vss			GND
42	XTAL		XTAL	System clock 12 MHz
43	EXTAL		EXTAL	
44	$\overline{\text{CS0}}$	I	$\overline{\text{COSMO CS}}$	Chip select signal
45	SI0	I	SI0	Signal for serial communication
46	SO0	O	SO0	
47	$\overline{\text{SCK0}}$	I	$\overline{\text{SCK0}}$	
48	PF7/AN11	I	METER (L)	Level meter (L) input
49	PF6/AN10	I	METER (R)	Level meter (R) input
50	PF5/AN9			Not used

Pin. No.	Port	I/O	Signal	Function
51	PF4/AN8	I	AF SW POSI	VR input for hi-fi switching pulse position adjustment
52	AVss		AVss	UNSW 5V
53	AVREF		AVREF	AD port reference input. UNSW 5V
54	AVDD		AVDD	GND
55	PF3/AF7	I	MODE4	Mechanism section CAM encoder input
56	PF2/AN6	I	MODE3	
57	PF1/AN5	I	MODE2	
58	PF0/AN4	I	MODE1	
59	AN3	I	CAP V	Capstan servo voltage input
60	AN2	I	VIDEO RF	Video RF envelope input
61	AN1	I	AF ENV	hi-fi audio RF envelope input
62	AN0	I	RF SW POSI	VR input for RF SWP position adjustment
63	PG7/EXI1	I	S REEL	S reel sensor input
64	PG6/EXI0	I	T REEL	T reel sensor input
65	PG5/SYNC1	I	$\overline{\text{DEW}}$	Not used
66	PG4/SYNC0	I	COMP SYNC	Composite sync input
67	PG3/$\overline{\text{PBCTL}}$	I	PB CTL	Playback CTL input
68	PG2/DPG	I	DRM PG	Drum PG input
69	PG1/DFG	I	DRM FG	Drum FG input
70	PG0/CFG	I	CAP FG	Capstan FG input
71	PE7	O	CAP STOP	Capstan STOP signal output
72	PE6	O	CAP RVS	Capstan reverse signal output
73	PE5	O	CAP D/A	Capstan error DIA output
74	PE4	O	DRM D/A	Drum error D/A output
75	PE3/PWM1	O	CTL INV	"H" when capstan is reversed
76	PE2/PWM0	O		Not used
77	PE1	I	VD CTL	Playback CTL input
78	PE0	I		Not used
79	PI7/SI1	I	SI1	Index microprocessor serial communication signal
80	PI6/SO1	O	SO1	
81	PI5/$\overline{\text{SCK1}}$	O	$\overline{\text{SCK1}}$	Index microprocessor serial communication signal
82	PI4	O	$\overline{\text{INDEX CS}}$	
83	PI3	O	LINE1	Video/audio input select signal
84	PI2	O	LINE2	
85	PI1	O	LAMP	END sensor lamp drive output
86	PI0	I		
87		O		
88	Vss			GND
89	VDD			UNSW 5V
90	N.C.			Connected to UNSW 5V
91	PA7/PPO7	O	$\overline{\text{SP}}$	"L" when SP mode
92	PA6/PPO6	O	EP	"H" when EP mode. Not used.
93	PA5/PPO5	O	LP	"H" when LP mode
94	PA4/PPO4	O	EDIT	"H" when EDIT
95	PA3/PPO3	O	NA PB	"H" when normal audio playback
96	PA2/PPO2	O	$\overline{\text{AF PB}}$	"L" when hi-fi audio playback
97	PA1/PPO1	O	$\overline{\text{JOG}}$	"L" when special playback. Not used.
98	PA0/PPO0	O	$\overline{\text{V PB}}$	"L" when video playback
99	PB7/PPO15	O	HEAD SEL	Video head select signal
100	PB6/PPO14	O		Not used

3-13. TIMER/MODE CONTROL — MICROPROCESSOR PIN FUNCTION (MF-122 BOARD IC801) (SLV-585HF/589HF/71HF)

Pin. No.	Port	I/O	Signal	Function
1	S4	O	S0	Display segment signal 0
2	S5	O	S1	Display segment signal 1
3	S6	O	S2	Display segment signal 2
4	S7	O	S3	Display segment signal 3
5	S8	O	S4	Display segment signal 4
6	S9	O	S5	Display segment signal 5
7	S10	O	S6	Display segment signal 6
8	S11	O	S7	Display segment signal 7
9	S12	O	S8	Display segment signal 8
10	S13	O	S9	Display segment signal 9
11	S14	O	S10	Display segment signal 10
12	S15	O	S11	Display segment signal 11
13	S16	O	S12	Display segment signal 12
14	S17	O	S13	Display segment signal 13
15	T13	O	S14	Display segment signal 14
16	T12	O	S15	Display segment signal 15
17	T11	O	T11	Display timing signal 11
18	T10	O	T10	Display timing signal 10
19	T9	O	T9	Display timing signal 9
20	T8	O	T8	Display timing signal 8
21	T7	O	T7	Display timing signal 7
22	T6	O	T6	Display timing signal 6
23	T5	O	T5	Display timing signal 5
24	T4	O	T4	Display timing signal 4
25	T3	O	T3	Display timing signal 3
26	T2	O	T2	Display timing signal 2
27	T1	O	T1	Display timing signal 1
28	T0	O	T0	Display timing signal 0
29	INT	I	INT	Not used
30	TX		TX	Clock for back-up 32.768 kHz
31	TEX		ETX	Clock for back-up 32.768 kHz
32	$\overline{\text{RST}}$	I	$\overline{\text{RESET}}$	Reset signal input
33	N.C.			Connected to 5V power
34	VDD		VDD	5V power
35	AD0	I	AD0 (RING 0)	KEY input *1
36	AD1	I	AD1 (RING 1)	KEY input *1
37	AD2	I	AD2 (RING 2)	KEY input *1, *2
38	AD3	I	AD3	KEY input *2
39	AD4	I	AD4	KEY input *2
40	AD5	I	AD5	KEY input *2
41	AD6	I	AD6	KEY input *2
42	AD7	I	AD7	KEY input *2
43	EC	I	$\overline{\text{EC}}$	Not used
44	SCLK	O	SCLK0	Serial communication clock
45	SO	O	S IN0	Serial data output
46	SI	I	S OUT0	Serial data input
47	PA0	O	$\overline{\text{CG CS}}$	CG microprocessor chip select signal
48	PA1	O	$\overline{\text{COSMO CS}}$	SS microprocessor chip select signal
49	PA2	O	$\overline{\text{COSMO RST}}$	SS microprocessor reset signal output
50	PA3	I	$\overline{\text{CG HDET}}$	Video signal. existence judgment input. "L": video signal

Pin. No.	Port	I/O	Signal	Function
51	PF0	O	TA MUTE	Tuner audio mute
52	PF1	O	TU DATA	Tuner control signal
53	PF2	O	TU ENABLE	Tuner control signal
54	PF3	O	TU CLK	Tuner control signal
55	PE0	I	AFT DOWN	Tuner control signal
56	PE1	I	AFT UP	Tuner control signal
57	PE2	I		Not used
58	PE3	I		Not used
59	PY0	O		Not used
60	PWM	O	PWM	PWM output for buzzer
61	WP	I	POWER FAIL	"L" when service interruption
62	RMC	I	SIRCS IN	Remote control input
63	PD0	I	FWR/REV	Shuttle ring input *1
64	PD1	I		Not used
65	PD2	I		Not used
66	PD3	I	BASS BOOST	Not used
67	PC0	I/O		Not used
68	PC1	I/O	MEM DATA	Non-volatile memory data signal
69	PC2	I/O	U/C	Fixed at "H" level
70	PC3	I/O	F45A	Fixed at "L" level
71	Vss		Vss	GND
72	XTAL		XTAL	Clock 4.19 MHz
73	N.C.			Connected to 5V power
74	EXTAL		EXTAL	Clock 4.19 MHz
75	VREF		VREF	A/D input reference power
76	VFDP		VFDP	Power for fluorescent indicator
77	PH0	O	MEMCLK	Non-volatile memory clock signal
78	PH1	O	MEM CS	Non-volatile memory chip select signal
79	PH2	O	POWER ON	"H" output when power ON
80	PH3	O		Not used

*1. Shuttle ring position and terminal input level

<table>
<tr><th rowspan="2">Shuttle ring position</th><th colspan="3">REW</th><th colspan="8">STOP</th><th colspan="3">FF</th></tr>
<tr><th colspan="2">REVIEW</th><th>– × 2</th><th>– × 1</th><th colspan="2">– 1/5</th><th colspan="2">PLAY/ STILL</th><th colspan="2">1/5</th><th>× 1</th><th>× 2</th><th colspan="2">CUE</th></tr>
<tr><td>AD0 ㉟ (RING 0)</td><td colspan="2">L</td><td>L</td><td>H</td><td colspan="2">H</td><td colspan="2">H</td><td colspan="2">H</td><td>H</td><td>L</td><td colspan="2">L</td></tr>
<tr><td>AD1 ㊱ (RING 1)</td><td>H</td><td>L</td><td>H</td><td>H</td><td colspan="2">L</td><td colspan="2">H</td><td colspan="2">L</td><td>H</td><td>H</td><td>L</td><td>H</td></tr>
<tr><td>AD2 ㊲ (RING 2)</td><td>H</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td><td colspan="2">H</td><td>H</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr>
<tr><td>FWD/RVS (63)</td><td colspan="7">L</td><td colspan="7">H</td></tr>
</table>

*2. Pressed key and terminal input voltage

Input voltage / Input terminal	0V	1.1V	2.1V	3.1V	4.1V	5.5V
AD7 ㊷	TIMER REC	REC MODE (SP/EP)	(TV/VTR)			No Key input
AD6 ㊶	Quick timer	INPUT SELECT	Tracking ▲	Channel –	EDIT	No Key input
AD5 ㊵	REC	Tracking AUTO/MANUAL	Tracking ▼	Channel +		No Key input
AD4 ㊴	POWER	EJECT	VTR mode 1	VTR mode 2		VTR mode 3
AD3 ㊳	STOP	PLAY				No Key input
AD2 ㊲	Shuttle ring RING 2	PAUSE	HIGH SPEED REWIND			No Key input

3-14. SYSTEM CONTROL — VIDEO BLOCK INTERFACE (SLV-686HF)

Signal	Pin. No.	I/O	STOP/ FF/ REW	TAPE THREAD-ING	TAPE UNTHREAD-ING	PB	PB-PAUSE	SLOW	× 2	CUE	REVIEW	REC	REC-PAUSE	VIDEO INSERT OR AV INSERT	VIDEO INSERT PAUSE OR AV INSERT PAUSE	AUDIO INSERT	AUDIO INSERT PAUSE
V·$\overline{\text{PB}}$	MA-82 Board IC501 (98)	O	H	H	H	L	L	L	L	L	L	H	H	H	H	L	L
HEAD SEL	MA-82 Board IC501 (99)	O	L	L	L	L	H	*1	H	L	L	H	L	H	L	L	L
RF SW P (SW30)	MA-82 Board IC501 ①	O	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2
Q VD/V MUTE	MA-82 Board IC501 ②	O	L	L	L	*3	*4	*4	*4	*4	*4	L	L	L	L	L	*12
FE ON	MA-82 Board IC501 ⑥	O	L	L	L	L	L	L	L	L	L	*	L	H	L	L	L
EDIT	MA-82 Board IC501 (94)	O	L	L	L	*10	*10	*10	*10	*10	*10	*10	L	*10	L	*10	L
AMS	MA-82 Board IC501 ㉛	O (O.D)	L	L	L	L	L	L	L	*5	*5	L	L	L	L	L	L
$\overline{\text{SP}}$	MA-82 Board IC501 (91)	O	*6	*6	*6	*7	*7	*7	*7	*7	*7	*6	*6	*7	*7	*7	*7
EP	MA-82 Board IC501 (92)	O	*6	*6	*6	*7	*7	*7	*7	*7	*7	*6	*6	*7	*7	*7	*7
LP	MA-82 Board IC501 (93)	O	L	L	L	*7	*7	*7	*7	*7	*7	L	L	*7	*7	*7	*7
REC·$\overline{\text{P}}$ (RP)	MA-82 Board IC501 ⑤	O	L	L	L	L	L	L	L	L	L	H	L	H	L	L	L
V REC	MA-82 Board IC501 (51)	O	L	L	L	L	L	L	L	L	L	H	H	H	H	H	H
V SYNC	MA-82 Board IC501 (66)	I	*8	*8	*8	*8	*8	*8	*8	*8	*8	*8	*8	*8	L	*8	L
$\overline{\text{OSD MUTE}}$	MA-82 Board IC501 ㉞	O (O.D)	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9

*1. "H" when tape stops. "L" when tape runs (approx. for 40 msec).
*2. Synchronized with drum rotation. 30 Hz 50% duty pulse.
*3. Normally "L". "H" when CTL signal is not generated.
*4. V period "H" pulse
*5. HI-Z (2.5V) in SP mode. "L" in EP mode.
*6. Selected by SP/EP. SP mode: "L", EP mode: "H".
*7. Selected by tape recording mode.

Mode Signal	SP	LP	EP
$\overline{\text{SP}}$ (91)	L	H	H
EP (92)	L	L	H
LP (93)	L	H	L

*8. Composite sync signal (positive).
*9. "L" when menu screen or blue back screen.
*10. Normally "L". "H" in edit mode.
*11. "H" when REC starts (SP: approx. for 7 sec, EP: approx. for 21 sec).
*12. V period "H" pulse.

3-15. SYSTEM CONTROL — SERVO PERIPHERAL CIRCUIT INTERFACE (SLV-686HF)

Signal	Pin. No.	I/O	STOP	FF	REW	TAPE THREAD-ING	TAPE UNTHREAD-ING	PB	PB·PAUSE	SLOW	× 2	CUE	REVIEW	REC	REC·PAUSE	VIDEO INSERT OR AV INSERT	VIDEO INSERT PAUSE OR AV INSERT PAUSE	AUDIO INSERT	AUDIO INSERT PAUSE
REC CTL	MA-82 Board IC501 ⑦	O	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1
CAP STOP	MA-82 Board IC501 (71)	O	H	L	L	L	L	L	H	H	L	L	L	L	L	L	H	L	H
$\overline{\text{STEP PLS}}$	MA-82 Board IC501 ㉟	O (O.D)	H	H	H	H	H	H	H	*2	H	H	H	H	H	H	H	H	H
CAP V *3	MA-82 Board IC501 (59)	I																	
SW POSITION *4	MA-82 Board IC501 (62)	I																	
PB CTL	MA-82 Board IC501 (67)	I	H	*6	*6			*1	H/L	*2	*6	*6	*6	*1	H	*1	H	*1	H
VD CTL	MA-82 Board IC501 (77)	I	H	*6	*6			*1	H/L	*2	*6	*6	*6	*1	H	*1	H	*1	H
DRUM PG	MA-82 Board IC501 (68)	I	L	*7	*7	*5	*5	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7
DRUM FG	MA-82 Board IC501 (69)	I	L	*8	*8	*5	*5	*8	*8	*8	*8	*8	*8	*8	*8	*8	*8	*8	*8
CAP FG	MA-82 Board IC501 (70)	I	H/L	*6	*6	*5	*5	*6	H/L	*9	*6	*6	*6	*6	H/L	*6	H/L	*6	H/L
INDEX $\overline{\text{CS}}$	MA-82 Board IC501 (82)	O	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
CAP RVS	MA-82 Board IC501 (72)	O	H/L	L	H	L	H	L	L	*2	L	L	H	L	L	L	L	L	L
CAP DA *14	MA-82 Board IC501 (73)	O	*11	*11	*11	*11	*11	*12	*11	*11	*12	*12	*12	*12	*11	*12	*11	*12	*11
DRUM DA *14	MA-82 Board IC501 (74)	O	*13	*13	*13	*13	*13	*13	*13	*13	*13	*13	*13	*13	*13	*13	*13	*13	*13
REC·$\overline{\text{P}}$ (RP)	MA-82 Board IC501 ⑤	O	L	L	L	L	L	L	L	L	L	L	L	H	L	H	L	L	L
STEP	MA-82 Board IC502 ㉔	O	L	L	L	L	L	L	L	*15	L	L	L	L	L	L	L	L	L

*1. 30 Hz pulse
*2. Pulse at tape running
*3. Input terminal for capstan constant voltage drive
Used when FF/REW, cassette loading/unloading, etc.
*4. Input terminal for video switching position adjustment.
*5. Unstable period pulse
*6. Pulse of period in proportion to tape speed
*7. 30 Hz "H" pulse
*8. 360 Hz pulse
*9. Pulse at tape running
*10. 8 msec period pulse
*11. Approx. 2 msec period "H" or "L" pulse
*12. Approx. 1.5 msec period "H" or "L" pulse
*13. Approx. 3 msec period "H" or "L" pulse
*14. 3 value output of "H", "L" and HI-Z (2.5V)
*15. "H" when FWD direction and STEP drive

3-16. SYSTEM CONTROL — MECHANISM BLOCK INTERFACE (SLV-686HF)

Signal	Pin. No.	I/O	HI-SPEED REW	EJECTED	CASSETTE LOADING	CASSETTE UNLOAD-ING	TAPE THREAD-ING	TAPE UNTHREAD-ING	STOP	FF	REW	PB	PB· PAUSE	SLOW	× 2	CUE	REVIEW	REC	REC· PAUSE
CAM *1	MA-82 Board IC501 ⑪	O	L	L	L	L	H	H	L	L	L	L	L	L	L	L	L	L	L
LOAD	MA-82 Board IC501 ⑬	O	L	L	H	H	L	L	L	L	L	L	L	L	L	L	L	L	L
CW/CCW	MA-82 Board IC501 ⑫	O			H	L	H	L											
MODE 1	MA-82 Board IC501 (58)	I	H	L	L	L	H	H	L	H	H	H	L	L	H	H	H	H	L
MODE 2	MA-82 Board IC501 (57)	I	L	H	H	H	H	H	L	L	L	L	H	H	L	L	L	L	H
MODE 3	MA-82 Board IC501 (56)	I	H	H	H	H	L	L	L	L	L	H	H	H	H	H	L	H	H
MODE 4	MA-82 Board IC501 (55)	I	H	H	H	H	H	H	L	H	H	L	L	L	L	L	L	L	L
REC PRF	MA-82 Board IC501 ⑰	I	*2	L	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2
C-UP/DOWN	MA-82 Board IC501 ⑱	I	L	H	H→L	L→H	L	L	L	L	L	L	L	L	L	L	L	L	L
T REEL	MA-82 Board IC501 (64)	I	*3	H/L	H/L	H/L	H/L	H/L	H/L	*3	*3	*3	H/L	*3	*3	*3	*3	*3	H/L
S REEL	MA-82 Board IC501 (63)	I	*3	H/L	H/L	H/L	*3	*3	H/L	*3	*3	*3	H/L	*3	*3	*3	*3	*3	H/L
LAMP	MA-82 Board IC501 (85)	O	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4
DEW	MA-82 Board IC501 (65)	I	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5
CAP V	MA-82 Board IC501 (59)	I	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6
CAP STOP	MA-82 Board IC501 (71)	O	L	H	H	H	L	L	H	L	L	L	H	H	L	L	L	L	H
CAP RVS	MA-82 Board IC501 (72)	O	H	H			L	H	H/L	L	H	L	L	L/*9	L	L	H	L	L
CAP DA *8	MA-82 Board IC501 (73)	O																	
T SENS	MA-82 Board IC501 ㉑	I	*7	*4	*4	*4	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7
S SENS	MA-82 Board IC501 ㉒	I	*7	*4	*4	*4	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7

*1. "H" when mechanism mode transition
*2. "L" when erasing protection tab is bent. "H" when not bent.
*3. Pulse of period in proportion to reel rotating speed
*4. Approx. 2 msec period "H" pulse
*5. Normally "H"
*6. Input terminal for capstan constant voltage drive. Used in FF/REW, cassette loading/unloading, etc.
*7. Normally "L". 2 msec period "H" pulse when tape top or tape end is detected.
*8. 3 value output of "H", "L" and "HIZ (2.5V)"
*9. Pulse at tape running

3-17. SYSTEM CONTROL — SYSTEM CONTROL PERIPHERAL CIRCUIT INTERFACE (SLV-686HF)

Signal	Pin. No.	I/O	I/O level
$\overline{\text{COSMO•RESET}}$	MA-82 Board IC501 ㊶	I	Normally "H". "L" when service interruption is detected or restored.
$\overline{\text{COSMO•CS}}$	MA-82 Board IC501 ㊹	I	Chip select signal from timer microprocessor. V period "L" pulse.
SI•BUS	MA-82 Board IC501 ㊺	I	Serial communication data from timer microprocessor. V period "L" pulse.
SO•BUS	MA-82 Board IC501 ㊻	O	Serial communication data to timer microprocessor. V period "L" pulse.
S CLK	MA-82 Board IC501 ㊼	I	Serial communication clock with timer microprocessor. V period "L" pulse.
S IN 2	MA-82 Board IC501 (79)	I	Serial communication data from index IC. 16 msec period "L" pulse.
S OUT 2	MA-82 Board IC501 (80)	O	Serial communication data to index IC. 8 msec period "L" pulse.
S CLK 2	MA-82 Board IC501 (81)	O	Serial communication clock to index IC. 8 msec period "L" pulse.
INDEX $\overline{\text{CS}}$	MA-82 Board IC501 (82)	O	Chip select signal to index IC. 8 msec period "L" pulse.

3-18. SYSTEM CONTROL — AUDIO BLOCK INTERFACE (SLV-686HF)

Signal	Pin. No.	I/O	STOP/ FF/ REW	TAPE LOADING	TAPE UNLOAD-ING	PB	PB• PAUSE	SLOW	×2	CUE	REVIEW	REC	REC• PAUSE	VIDEO INSERT OR AV INSERT	VIDEO INSERT PAUSE OR AV INSERT PAUSE	AUDIO INSERT	AUDIO INSERT PAUSE
$\overline{\text{AF PB}}$	MA-82 Board IC501 (96)	O	H	H	H	L	L	L	L	L	L	H	H	*1	H	*1	H
MONI (L)	MA-82 Board IC501 ⑩	O	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1
MONI (R)	MA-82 Board IC501 ⑨	O	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1
AF ENVELOP	MA-82 Board IC501 (61)	I	AF RF envelope signal input terminal for automatic tracking.														
NA PB	MA-82 Board IC501 (95)	O	L	L	L	H	H	H	H	H	H	L	L	*1	L	*1	L
A MUTE	MA-82 Board IC501 ㊳	O (O.D)	L	L	L	*4	H	H	H	H	H	L	L	L	L	L	L
$\overline{\text{SP}}$	MA-82 Board IC501 (91)	O	*2	*2	*2	*3	*3	*3	*3	*3	*2	*2	*2	*3	*3	*3	*3
NA REC•$\overline{\text{P}}$	MA-82 Board IC501 ⑧	O	L	L	L	L	L	L	L	L	L	H	L	*9	L	H	L
AF REC$\overline{\text{P}}$	MA-82 Board IC501 ④	O	L	L	L	L	L	L	L	L	L	H	L	H	L	L	L
AF SWP	MA-82 Board IC501 ⑭	O	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5
AF SW POSITION	MA-82 Board IC501 (51)	I	Input terminal for AF switching position adjustment.														
AO MUTE *6	MA-82 Board IC501 ㉖	O	L	L	L	*7	H	H	H	H	H	L	L	L	L	L	L
MIX/$\overline{\text{ST}}$	MA-82 Board IC501 ㉜	O (O.D)	L	L	L	*8	*8	*8	*8	*8	*8	L	L	L	L	L	L
METER (L)	MA-82 Board IC501 ㊽	I	Input terminal for the audio level meter (left) indication.														
METER (R)	MA-82 Board IC501 ㊾	I	Input terminal for the audio level meter (right) indication.														
$\overline{\text{FULL ERS}}$	MA-82 Board IC501 ㊱	O (O.D)	H	H	H	H	H	H	H	H	H	L	H	H	H	H	H

*1. Selected by audio monitor.

Audio monitor / Signal	STEREO OR MAIN, SUB, L, R	MAIN L	SUB R	(NORMAL)
MONI (L) ⑩	H	H	L	L
MONI (R) ⑨	H	L	H	L

*2. Selected by SP/EP selector. SP mode: "L", EP mode: "H".
*3. Selected by tape recording mode. SP mode: "L", EP mode: "H".
*4. "H" when CTL signal is not played back.
*5. 30 Hz, 50% duty pulse approx. 5 msec delayed from RF SW P.
*6. "H" when power ON/OFF selected.
*7. "H" when CTL signal is not played back.
*8. "H" when hi-fi/NORMAL MIX ON.
*9. "L" when video is inserted, "H" when AV is inserted.

3-19. SYSTEM CONTROL — TUNER BLOCK INTERFACE (SLV-686HF)

Signal	Pin. No.	I/O	I/O level
$\overline{\text{STEREO}}$	MA-82 Board IC501 ⑮	I	Tuner audio mode input terminal. "L" when stereo.
TAMUTE	MA-82 Board IC501 ㉘	O	Tuner audio mute output. "H" when not used channel is selected.
SAP CONT	MA-82 Board IC501 ㉙	O	"H" when SAP is selected for normal audio recording
$\overline{\text{F MONO}}$	MA-82 Board IC501 ㉚	O	"L" when tuner audio and auto stereo are turned OFF

3-20. SYSTEM CONTROL AND RF MODULATOR — INPUT SELECTION BLOCK INTERFACE (SLV-686HF)

Signal	Pin. No.	I/O	I/O level
TV/VTR	MA-82 Board IC501 ㉓	O	"L" when RF modulator through.
LINE 1	MA-82 Board IC501 (83)	O	*1. Input select control signal
LINE 2	MA-82 Board IC501 (84)	O	

*1.

Input / Signal	Tuner	LINE 1	LINE 2
LINE 1 (83)	L	H	L
LINE 2 (84)	L	L	H

3-21. SERVO/SYSTEM CONTROL — MICROPROCESSOR TERMINAL FUNCTION (MA-82 BOARD IC501) (SLV-686HF)

Pin. No.	Port	I/O	Signal	Function
1	PB5/PPO13	O	RF SWP	Video switching pulse output
2	PB4/PPO12	O	Q VD	False VD pulse output
3	PB3/PPO11	O	Q HD ENABI	
4	PB2/PPO10	O	AF REC $\overline{\text{P}}$	"H" output when hi-fi audio REC
5	PB1/PPO9	O	REC $\overline{\text{P}}$	"H" output when video REC
6	PB0/PPO8	O	FE ON	Flaying erase ON/OFF output.
7	PC7/RTO7	O	REC CTL	REC CTL output
8	PC6/RTO6	O	NA REC $\overline{\text{P}}$	"H" when normal audio REC
9	PC5/RTO5	O	MONI (R)	Audio output control signal
10	PC4/RTO4	O	MONI (L)	
11	PC3/RTO3	O	CAM	CAM motor drive output
12	PC2/PPO18	O	CW/$\overline{\text{CCW}}$	Clockwise/counterclockwise signal output
13	PC1/PPO17	O	LOAD	Load motor drive output
14	PC0/PPO16	O	AF SWP	hi-fi switching pulse output
15	PJ7	I	$\overline{\text{STEREO}}$	Tuner audio mode input
16	PJ6	I	$\overline{\text{BILING}}$	Tuner audio mode input
17	PJ5	I	REC PRF	Erasing protection tab, cassette IN detection input
18	PJ4	I	C UP/$\overline{\text{DOWN}}$	Cassette up/down detection input
19	PJ3	O	V REC	"L" output when video playback
20	PJ2	O	V MUTE	Video mute output
21	PJ1	I	T SENS	T end sensor input
22	PJ0	I	S SENS	S end sensor input
23	PD7	O	$\overline{\text{TV}}$/VTR	Antenna output select signal. "H": VTR, "L": TV.
24	PD6	O	STEP DRIVE	"H" when capstan STEP is driven.
25	PD5	O	BASS BOOST	Not used
26	PD4	O	$\overline{\text{A OUT MUTE}}$	Audio output MUTE signal
27	PD3	O		Not used
28	PD2	O	TA MUTE	Tuner audio MUTE signal
29	PD1	O	SAP CONT	SAP control signal
30	PD0	O	$\overline{\text{F MONO}}$	Tuner forced monaural signal
31	PH7	O	AMS	AMS control output
32	PH6	O	MIX/$\overline{\text{ST}}$	"H" when hi-fi MIX
33	PH5	O		Not used
34	PH4	O	$\overline{\text{OSD MUTE}}$	Video output mute signal
35	PH3	O	$\overline{\text{STEP PLS}}$	"L" when capstan step drive
36	PH2	O	$\overline{\text{FULL ERS}}$	"L" when full erase head operation
37	PH1	O		Not used
38	PH0	O	A MUTE	Audio MUTE output
39	MP	I	MP	Fixed at "L" level
40	$\overline{\text{RST}}$	I	$\overline{\text{COSMO RST}}$	System reset input
41	Vss			GND
42	XTAL		XTAL	System clock 12 MHz
43	EXTAL		EXTAL	
44	$\overline{\text{CS0}}$	I	$\overline{\text{COSMO CS}}$	Chip select signal
45	SI0	I	SI0	Signal for serial communication
46	SO0	O	SO0	
47	$\overline{\text{SCK0}}$	I	$\overline{\text{SCK0}}$	
48	PF7/AN11	I	METER (L)	Level meter (L) input
49	PF6/AN10	I	METER (R)	Level meter (R) input
50	PF5/AN9			Not used
51	PF4/AN8	I	AF SW POSI	VR input for hi-fi switching pulse position adjustment
52	AVss		AVss	UNSW 5V
53	AVREF		AVREF	AD port reference input. UNSW 5V
54	AVDD		AVDD	GND
55	PF3/AF7	I	MODE4	Mechanism section CAM encoder input
56	PF2/AN6	I	MODE3	
57	PF1/AN5	I	MODE2	
58	PF0/AN4	I	MODE1	
59	AN3	I	CAP V	Capstan servo voltage input
60	AN2	I	VIDEO RF	Video RF envelope input
61	AN1	I	AF ENV	hi-fi audio RF envelope input
62	AN0	I	RF SW POSI	VR input for RF SWP position adjustment
63	PG7/EXI1	I	S REEL	S reel sensor input
64	PG6/EXI0	I	T REEL	T reel sensor input
65	PG5/SYNC1	I	$\overline{\text{DEW}}$	Not used
66	PG4/SYNC0	I	COMP SYNC	Composite sync input
67	PG3/$\overline{\text{PBCTL}}$	I	PB CTL	Playback CTL input
68	PG2/DPG	I	DRM PG	Drum PG input
69	PG1/DFG	I	DRM FG	Drum FG input
70	PG0/CFG	I	CAP FG	Capstan FG input
71	PE7	O	CAP STOP	Capstan STOP signal output
72	PE6	O	CAP RVS	Capstan reverse signal output
73	PE5	O	CAP D/A	Capstan error DIA output
74	PE4	O	DRM D/A	Drum error D/A output
75	PE3/PWM1	O	CTL INV	"H" when capstan is reversed
76	PE2/PWM0	O		Not used
77	PE1	I	VD CTL	Playback CTL input
78	PE0	I		Not used
79	PI7/SI1	I	SI1	Index microprocessor serial communication signal
80	PI6/SO1	O	SO1	
81	PI5/$\overline{\text{SCK1}}$	O	$\overline{\text{SCK1}}$	Index microprocessor serial communication signal
82	PI4	O	$\overline{\text{INDEX CS}}$	
83	PI3	O	LINE1	Video/audio input select signal
84	PI2	O	LINE2	
85	PI1	O	LAMP	END sensor lamp drive output
86	PI0	I		
87		O		
88	Vss			GND
89	VDD			UNSW 5V
90	N.C.			Connected to UNSW 5V
91	PA7/PPO7	O	$\overline{\text{SP}}$	"L" when SP mode
92	PA6/PPO6	O	EP	"H" when EP mode. Not used.
93	PA5/PPO5	O	LP	"H" when LP mode
94	PA4/PPO4	O	EDIT	"H" when EDIT
95	PA3/PPO3	O	NA PB	"H" when normal audio playback
96	PA2/PPO2	O	$\overline{\text{AF PB}}$	"L" when hi-fi audio playback
97	PA1/PPO1	O	$\overline{\text{JOG}}$	"L" when special playback. Not used.
98	PA0/PPO0	O	$\overline{\text{V PB}}$	"L" when video playback
99	PB7/PPO15	O	HEAD SEL	Video head select signal
100	PB6/PPO14	O		Not used

3-22. TIMER/MODE CONTROL — MICROPROCESSOR PIN FUNCTION (MF-122 BOARD IC801) (SLV-686HF)

Pin. No.	Port	I/O	Signal	Function
1	S4	O	S0	Display segment signal 0
2	S5	O	S1	Display segment signal 1
3	S6	O	S2	Display segment signal 2
4	S7	O	S3	Display segment signal 3
5	S8	O	S4	Display segment signal 4
6	S9	O	S5	Display segment signal 5
7	S10	O	S6	Display segment signal 6
8	S11	O	S7	Display segment signal 7
9	S12	O	S8	Display segment signal 8
10	S13	O	S9	Display segment signal 9
11	S14	O	S10	Display segment signal 10
12	S15	O	S11	Display segment signal 11
13	S16	O	S12	Display segment signal 12
14	S17	O	S13	Display segment signal 13
15	T13	O	S14	Display segment signal 14
16	T12	O	S15	Display segment signal 15
17	T11	O	T11	Display timing signal 11
18	T10	O	T10	Display timing signal 10
19	T9	O	T9	Display timing signal 9
20	T8	O	T8	Display timing signal 8
21	T7	O	T7	Display timing signal 7
22	T6	O	T6	Display timing signal 6
23	T5	O	T5	Display timing signal 5
24	T4	O	T4	Display timing signal 4
25	T3	O	T3	Display timing signal 3
26	T2	O	T2	Display timing signal 2
27	T1	O	T1	Display timing signal 1
28	T0	O	T0	Display timing signal 0
29	INT	I	INT	Not used
30	TX		TX	Clock for back-up 32.768 kHz
31	TEX		ETX	Clock for back-up 32.768 kHz
32	$\overline{\text{RST}}$	I	$\overline{\text{RESET}}$	Reset signal input
33	N.C.			Connected to 5V power
34	V_{DD}		V_{DD}	5V power
35	AD0	I	AD0 (RING 0)	KEY input *1
36	AD1	I	AD1 (RING 1)	KEY input *1
37	AD2	I	AD2 (RING 2)	KEY input *1, *2
38	AD3	I	AD3	KEY input *2
39	AD4	I	AD4	KEY input *2
40	AD5	I	AD5	KEY input *2
41	AD6	I	AD6	KEY input *2
42	AD7	I	AD7	KEY input *2
43	EC	I	$\overline{\text{EC}}$	Not used
44	SCLK	O	SCLK0	Serial communication clock
45	SO	O	S IN0	Serial data output
46	SI	I	S OUT0	Serial data input
47	PA0	O	$\overline{\text{CG CS}}$	CG microprocessor chip select signal
48	PA1	O	$\overline{\text{COSMO CS}}$	SS microprocessor chip select signal
49	PA2	O	$\overline{\text{COSMO RST}}$	SS microprocessor reset signal output

Pin. No.	Port	I/O	Signal	Function
50	PA3	I	CG HDET	Video signal, existence judgment input. "L": video signal
51	PF0	O	TA MUTE	Tuner audio mute
52	PF1	O	TU DATA	Tuner control signal
53	PF2	O	TU ENABLE	Tuner control signal
54	PF3	O	TU CLK	Tuner control signal
55	PE0	I	AFT DOWN	Tuner control signal
56	PE1	I	AFT UP	Tuner control signal
57	PE2	I		Not used
58	PE3	I		Not used
59	PY0	O		Not used
60	PWM	O	PWM	PWM output for buzzer
61	WP	I	POWER FAIL	"L" when service interruption
62	RMC	I	SIRCS IN	Remote control input
63	PD0	I	FWR/REV	Shuttle ring input *1
64	PD1	I		Not used
65	PD2	I		Not used
66	PD3	I	BASS BOOST	Not used
67	PC0	I/O		Not used
68	PC1	I/O	MEM DATA	Non-volatile memory data signal
69	PC2	I/O	U/C	Fixed at "H" level
70	PC3	I/O	F45A	Fixed at "H" level
71	Vss		Vss	GND
72	XTAL		XTAL	Clock 4.19 MHz
73	N.C.			Connected to 5V power
74	EXTAL		EXTAL	Clock 4.19 MHz
75	VREF		VREF	A/D input reference power
76	VFDP		VFDP	Power for fluorescent indicator
77	PH0	O	MEMCLK	Non-volatile memory clock signal
78	PH1	O	MEM CS	Non-volatile memory chip select signal
79	PH2	O	POWER ON	"H" output when power ON
80	PH3	O		Not used

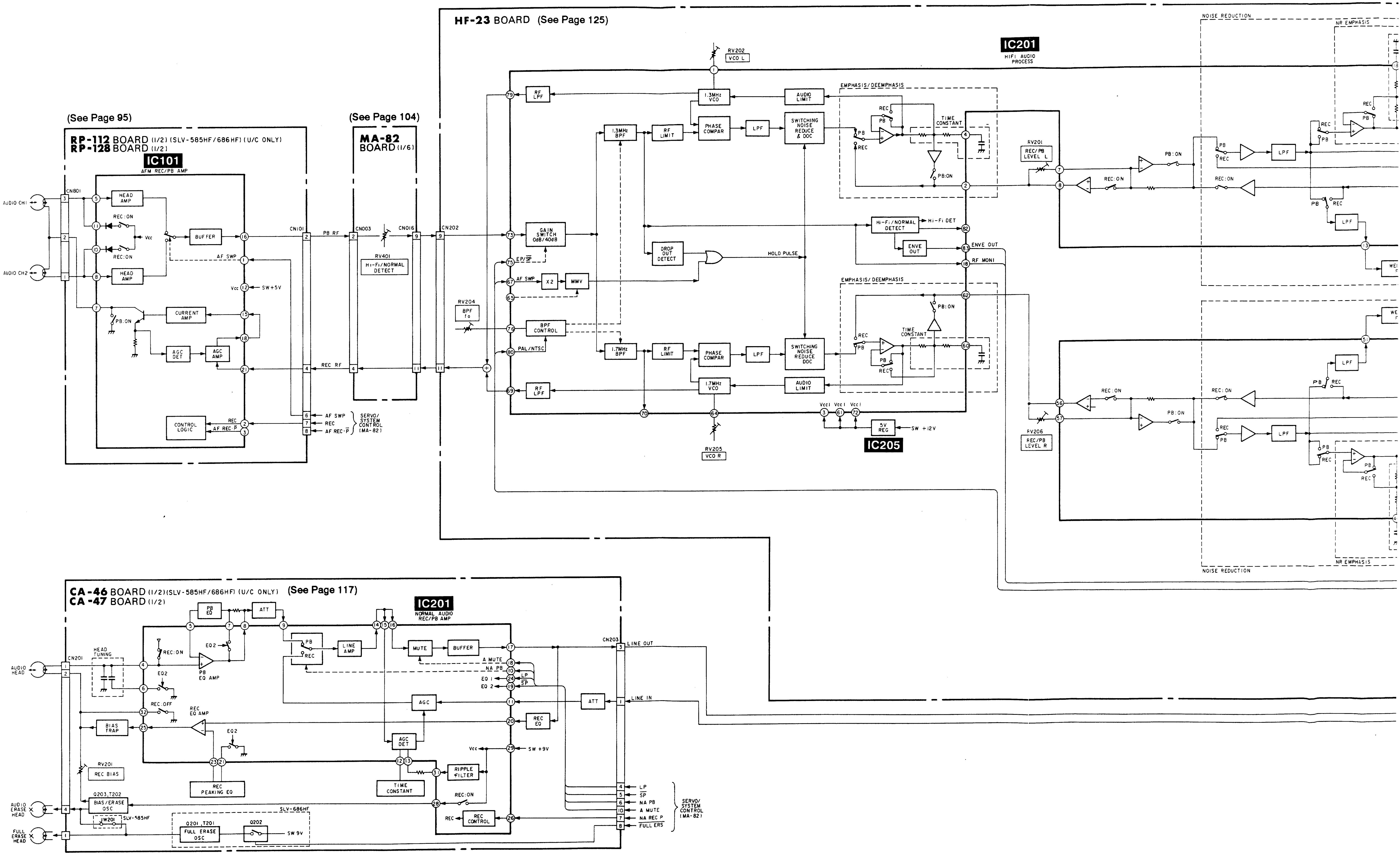
*1. Shuttle ring position and terminal input level

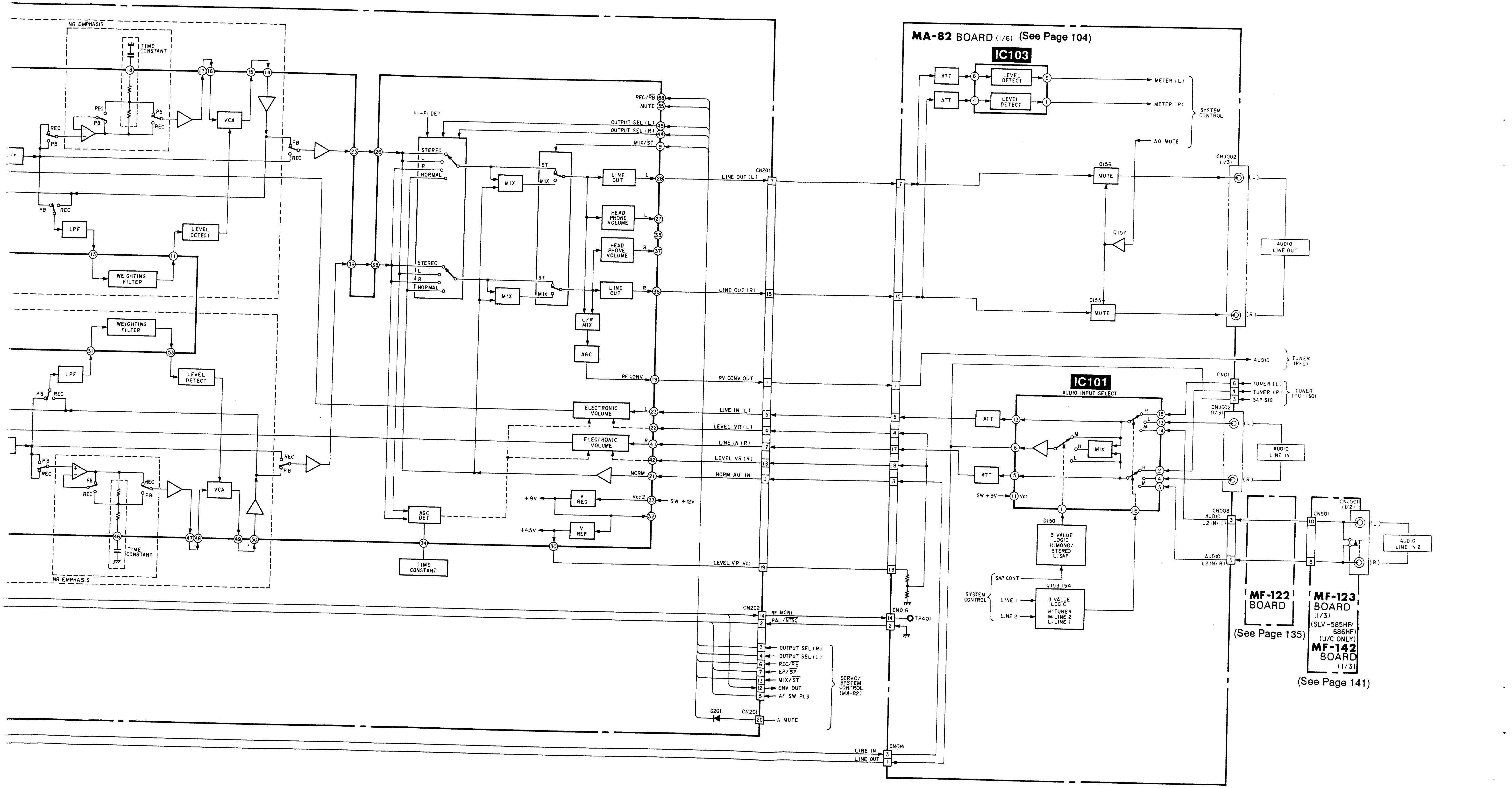
Shuttle ring position	REW			STOP							FF		
	REVIEW		− × 2	− × 1	− 1/5		PLAY/ STILL	1/5		× 1	× 2	CUE	
AD0 ㉟ (RING 0)	L		L	H	H		H	H		H	L	L	
AD1 ㊱ (RING 1)	H	L	H	H	L		H	L		H	H	L	H
AD2 ㊲ (RING 2)	H	L	L	L	L	H	H	H	L	L	L	L	H
FWD/RVS (63)	L						H						

*2. Pressed key and terminal input voltage

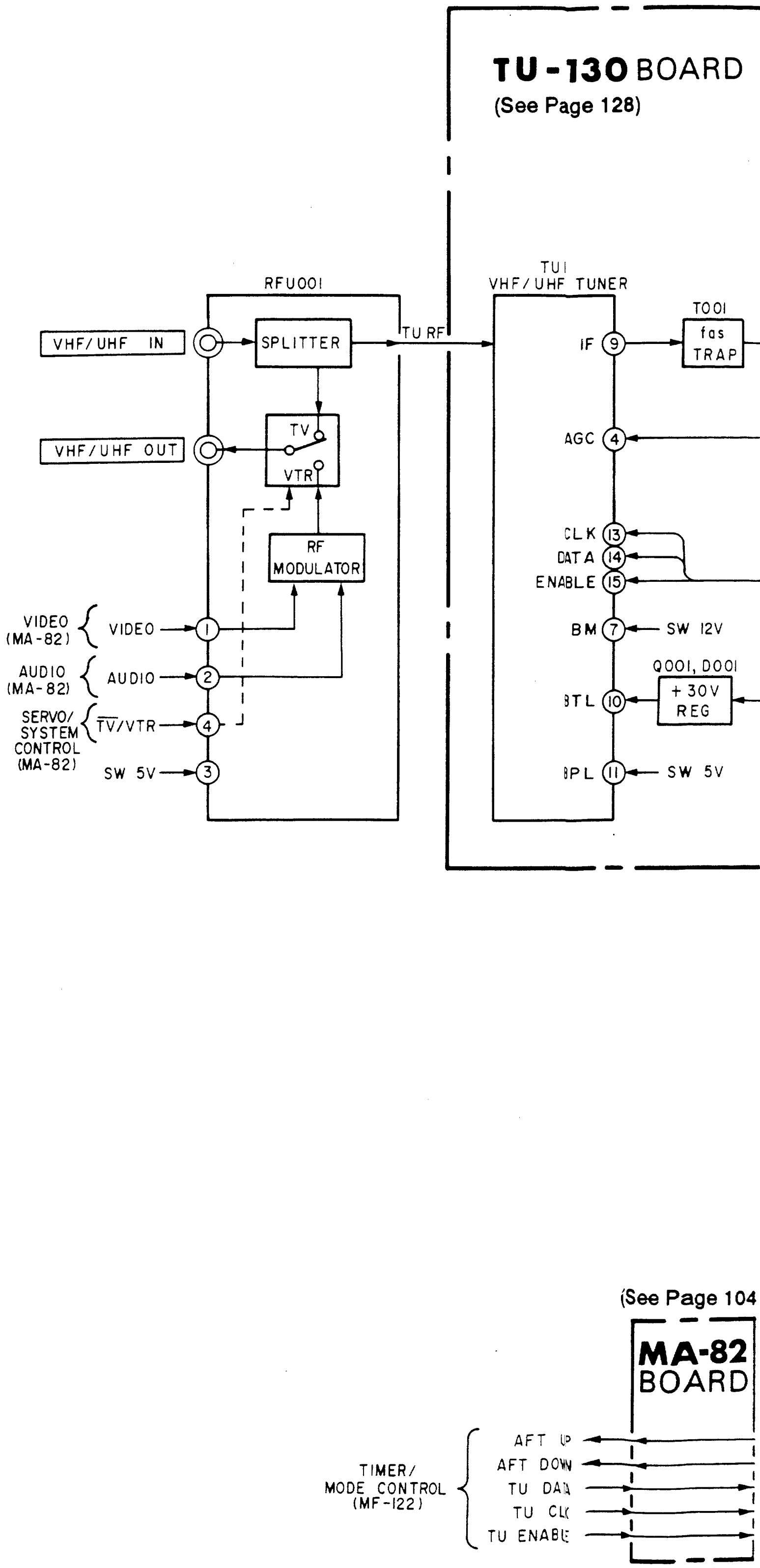
Input voltage / Input terminal	0V	1.1V	2.1V	3.1V	4.1V	5.5V
AD7 ㊷	TIMER REC	REC MODE (SP/EP)	(TV/VTR)	VIDEO INSERT	AUDIO INSERT	No Key input
AD6 ㊶	Quick timer	INPUT SELECT	Tracking ▲	Channel −	EDIT	No Key input
AD5 ㊵	REC	Tracking AUTO/MANUAL	Tracking ▼	Channel +		No Key input
AD4 ㊴	POWER	EJECT	VTR mode 1	VTR mode 2		VTR mode 3
AD3 ㊳	STOP	PLAY				No Key input
AD2 ㊲	Shuttle ring RING 2	PAUSE	HIGH SPEED REWIND			No Key input

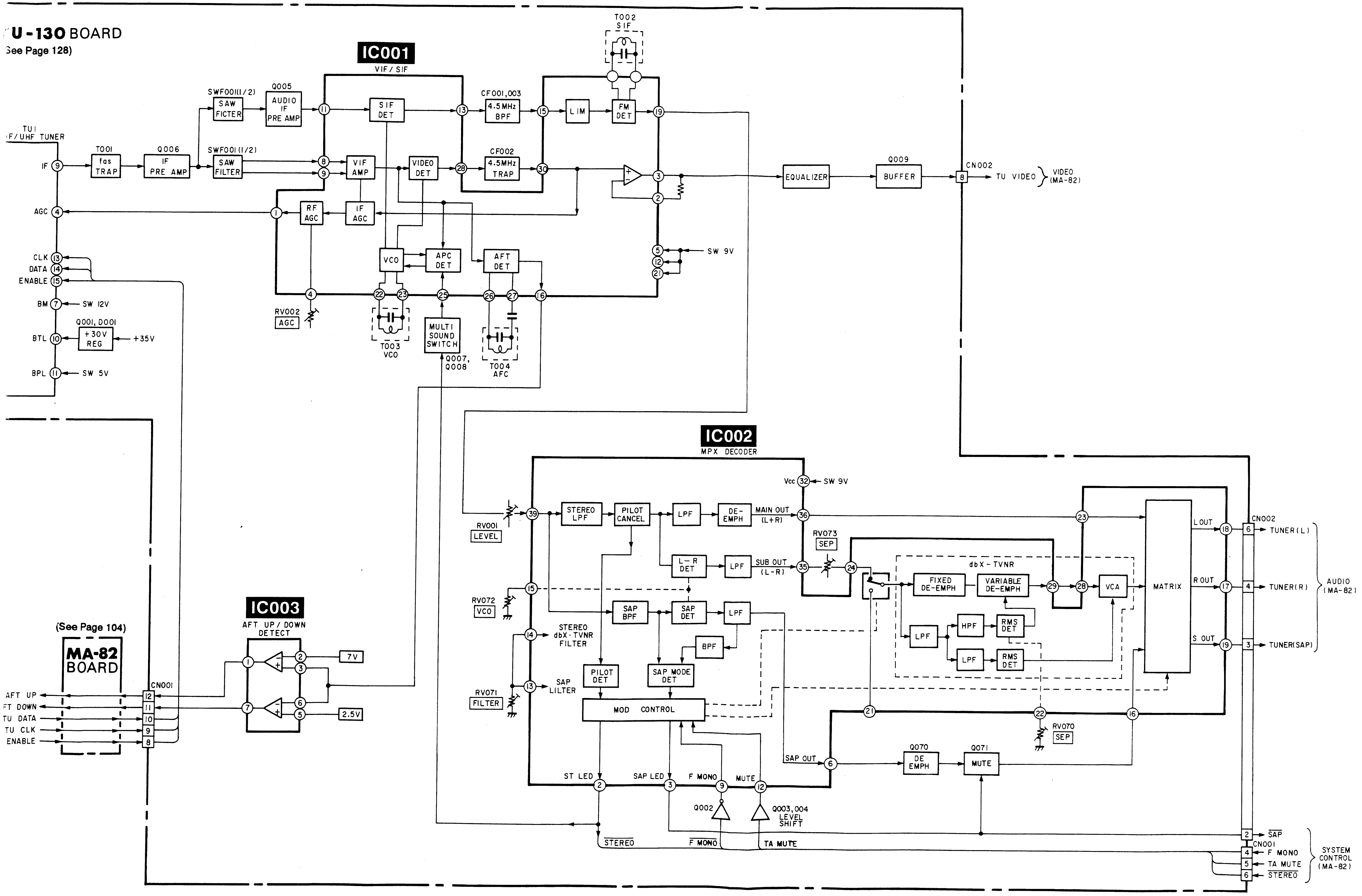
3-23. AUDIO BLOCK DIAGRAM


HF-23 BOARD (See Page 125)
(See Page 95)
RP-112 BOARD (1/2) (SLV-585HF/686HF) (U/C ONLY)
RP-128 BOARD (1/2)
IC101
AFM REC/PB AMP
(See Page 104)
MA-82 BOARD (1/6)
CN801
AUDIO CH1
AUDIO CH2
HEAD AMP
REC:ON
BUFFER
AF SWP
Vcc
SW+5V
CURRENT AMP
PB:ON
AGC DET
AGC AMP
REC RF
CONTROL LOGIC
REC
AF REC-P
CN101
PB RF
CN003
CN016
RV401
Hi-Fi/NORMAL DETECT
AF SWP
REC
AF REC-P
SERVO/SYSTEM CONTROL (MA-82)
CN202
IC201
HIFI AUDIO PROCESS
RV202
VCO L
RF LPF
1.3MHz VCO
AUDIO LIMIT
EMPHASIS/DEEMPHASIS
1.3MHz BPF
RF LIMIT
PHASE COMPAR
LPF
SWITCHING NOISE REDUCE & DOC
TIME CONSTANT
RV201
REC/PB LEVEL L
GAIN SWITCH 0dB/40dB
EP/SP
AF SWP
X2
MMV
DROP OUT DETECT
HOLD PULSE
Hi-Fi/NORMAL DETECT
Hi-Fi DET
ENVE OUT
RF MONI
RV204
BPF fo
BPF CONTROL
PAL/NTSC
1.7MHz BPF
1.7MHz VCO
RV205
VCO R
Vcc1
5V REG
SW +12V
IC205
RV206
REC/PB LEVEL R
NOISE REDUCTION
NR EMPHASIS
PB:ON
REC:ON
(See Page 117)
CA-46 BOARD (1/2) (SLV-585HF/686HF) (U/C ONLY)
CA-47 BOARD (1/2)
IC201
NORMAL AUDIO REC/PB AMP
PB EQ
ATT
CN201
HEAD TUNING
AUDIO HEAD
EQ2
PB EQ AMP
LINE AMP
MUTE
BUFFER
A MUTE
NA PB
EQ 1
EQ 2
LP
SP
AGC
REC EQ AMP
REC:OFF
BIAS TRAP
REC EQ
AGC DET
SW +9V
RV201
REC BIAS
RIPPLE FILTER
TIME CONSTANT
REC PEAKING EQ
Q203,T202
BIAS/ERASE OSC
AUDIO ERASE HEAD
SW201
SLV-585HF
SLV-686HF
Q201,T201
FULL ERASE OSC
Q202
SW 9V
FULL ERASE HEAD
REC CONTROL
CN203
LINE OUT
LINE IN
ATT
LP
SP
NA PB
A MUTE
NA REC P
FULL ERS
SERVO/SYSTEM CONTROL (MA-82)

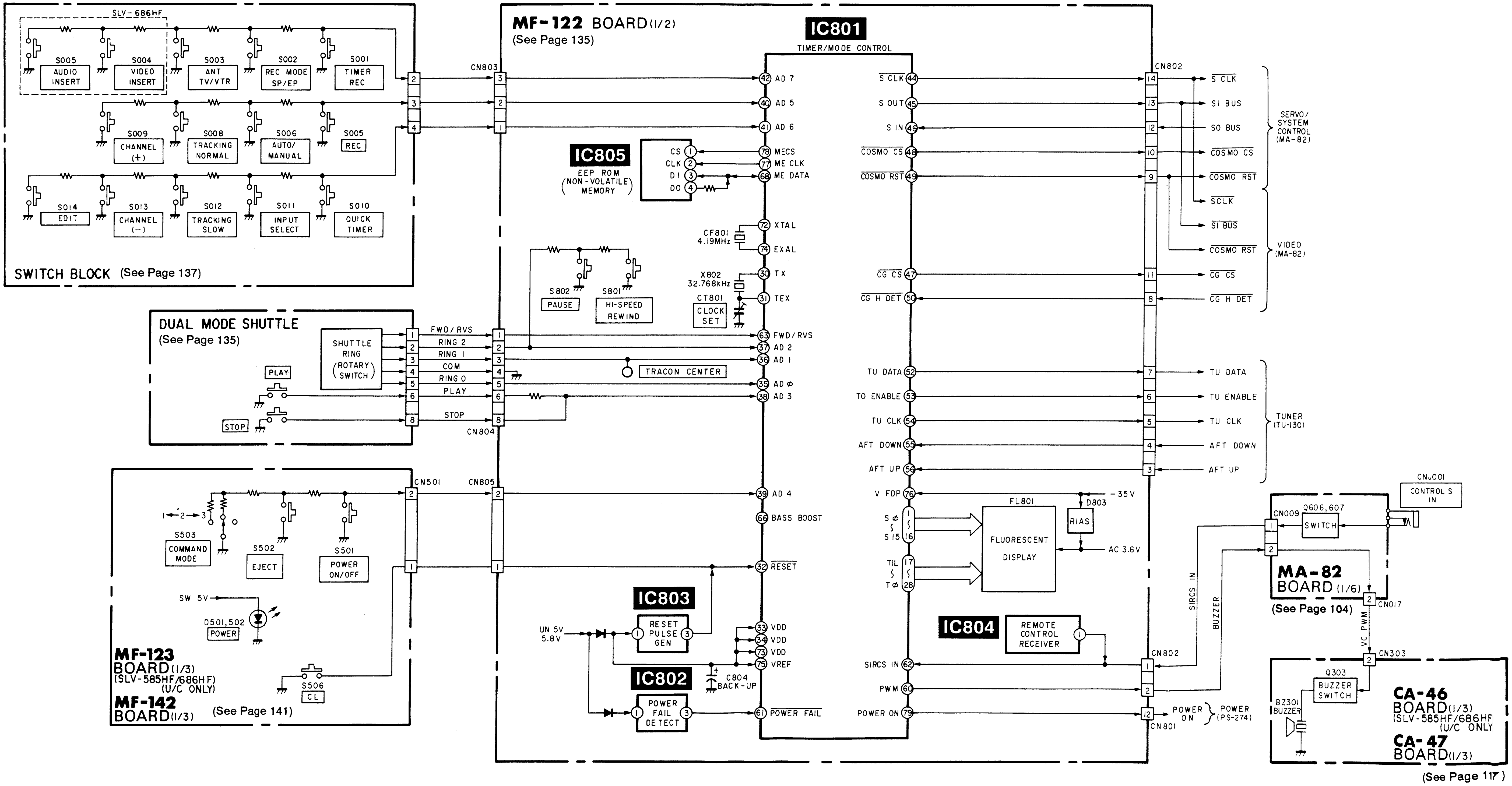

NR EMPHASIS
TIME CONSTANT
REC
PB
VCA
LPF
LEVEL DETECT
WEIGHTING FILTER
Hi-Fi DET
STEREO
L
R
NORMAL
ST
MIX
LINE OUT
HEAD PHONE VOLUME
L/R MIX
AGC
REC/PB
MUTE
OUTPUT SEL (L)
OUTPUT SEL (R)
MIX/ST
RF CONV
ELECTRONIC VOLUME
NORM
AGC DET
V REG
V REF
+9V
+4.5V
Vcc 2
SW +12V
TIME CONSTANT
CN201
LINE OUT (L)
LINE OUT (R)
RV CONV OUT
LINE IN (L)
LEVEL VR (L)
LINE IN (R)
LEVEL VR (R)
NORM AU IN
LEVEL VR Vcc
CN202
RF MONI
PAL/NTSC
OUTPUT SEL (R)
OUTPUT SEL (L)
REC/PB
EP/SP
MIX/ST
ENV OUT
AF SW PLS
SERVO/ SYSTEM CONTROL (MA-82)
D201
A MUTE
MA-82 BOARD (1/6) (See Page 104)
IC103
ATT
LEVEL DETECT
METER (L)
METER (R)
SYSTEM CONTROL
AO MUTE
Q156
Q157
Q155
CNJ002 (1/3)
AUDIO LINE OUT
AUDIO
TUNER (RFU)
CN011
TUNER (L)
TUNER (R)
SAP SIG
TUNER (TU-130)
IC101
AUDIO INPUT SELECT
H
M
L
SW +9V
Vcc
AUDIO LINE IN 1
D150
3 VALUE LOGIC H:MONO/ STEREO L:SAP
SAP CONT
LINE 1
LINE 2
Q153,154
3 VALUE LOGIC H:TUNER M:LINE 2 L:LINE 1
CN016
TP401
CN014
LINE IN
LINE OUT
CN008
AUDIO L2 IN (L)
AUDIO L2 IN (R)
CN501
CNJ501 (1/2)
AUDIO LINE IN 2
MF-122 BOARD (See Page 135)
MF-123 BOARD (1/3) (SLV-585HF/ 686HF) (U/C ONLY) MF-142 BOARD (1/3) (See Page 141)

3-24. TUNER BLOCK DIAGRAM

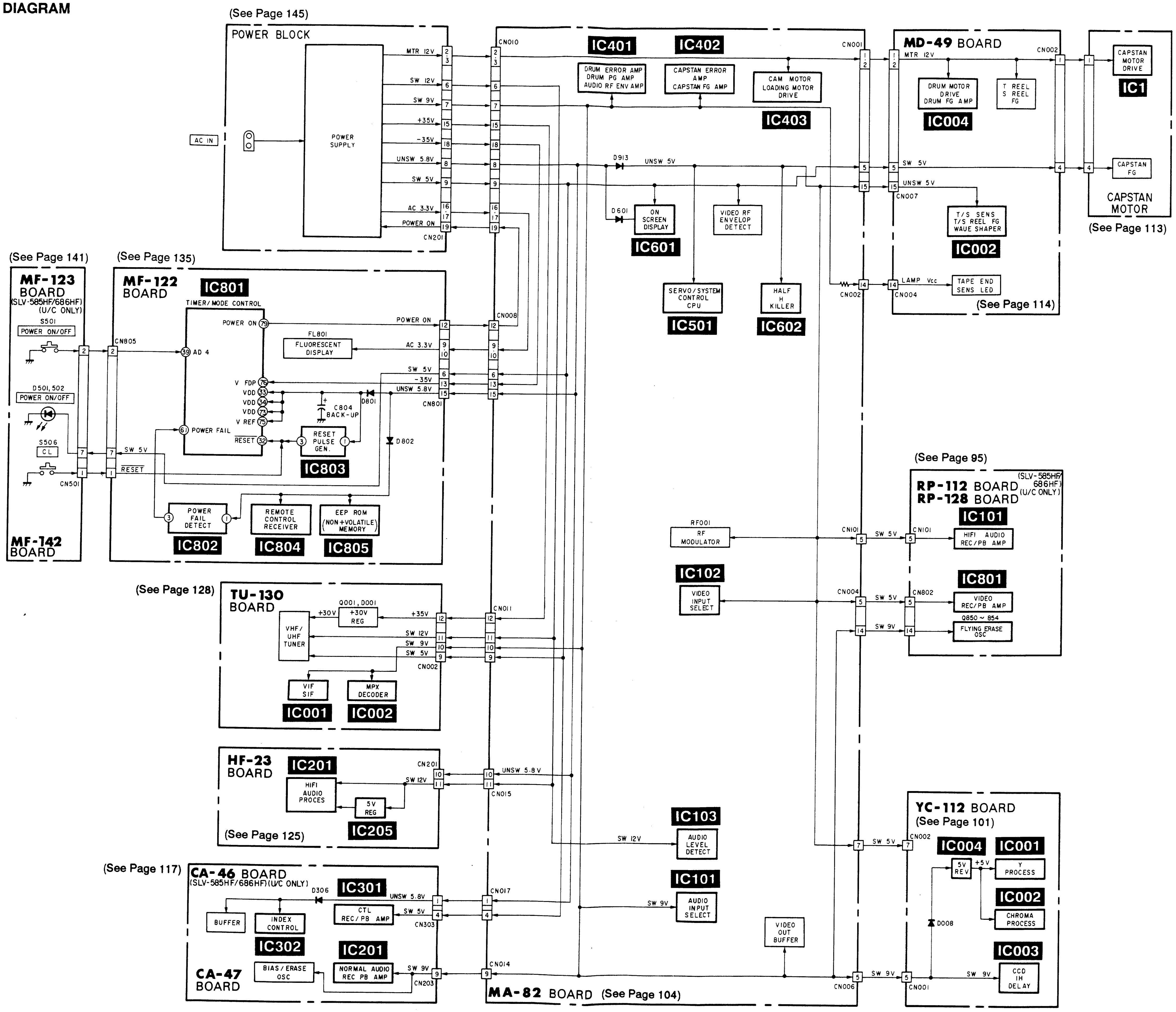

TU-130 BOARD
(See Page 128)
RFU001
VHF/UHF IN
SPLITTER
TU RF
VHF/UHF OUT
TV
VTR
RF MODULATOR
VIDEO (MA-82)
VIDEO
1
AUDIO (MA-82)
AUDIO
2
SERVO/ SYSTEM CONTROL (MA-82)
TV/VTR
4
SW 5V
3
TU1 VHF/UHF TUNER
IF 9
AGC 4
CLK 13
DATA 14
ENABLE 15
BM 7
SW 12V
Q001, D001
+30V REG
BTL 10
BPL 11
SW 5V
T001
fos TRAP
(See Page 104
MA-82 BOARD
TIMER/ MODE CONTROL (MF-122)
AFT UP
AFT DOWN
TU DATA
TU CLK
TU ENABLE


U-130 BOARD
ee Page 128)
IC001
VIF / SIF
TU1
F/UHF TUNER
IF
AGC
CLK
DATA
ENABLE
BM
SW 12V
Q001, D001
BTL
+30V REG
+35V
BPL
SW 5V
T001
fas TRAP
Q006
IF PRE AMP
SWF001(1/2)
SAW FICTER
SAW FILTER
Q005
AUDIO IF PRE AMP
SIF DET
VIF AMP
VIDEO DET
RF AGC
IF AGC
VCO
APC DET
AFT DET
RV002
AGC
T003
VCO
MULTI SOUND SWITCH
Q007, Q008
T004
AFC
CF001,003
4.5MHz BPF
CF002
4.5MHz TRAP
LIM
FM DET
T002
SIF
SW 9V
EQUALIZER
Q009
BUFFER
CN002
TU VIDEO
VIDEO (MA-82)
IC002
MPX DECODER
Vcc
SW 9V
RV001
LEVEL
STEREO LPF
PILOT CANCEL
LPF
DE-EMPH
MAIN OUT (L+R)
L-R DET
LPF
SUB OUT (L-R)
RV073
SEP
dbX-TVNR
FIXED DE-EMPH
VARIABLE DE-EMPH
VCA
MATRIX
HPF
RMS DET
LPF
RMS DET
RV072
VCO
SAP BPF
SAP DET
LPF
BPF
STEREO dbX·TVNR FILTER
SAP LILTER
RV071
FILTER
PILOT DET
SAP MODE DET
MOD CONTROL
RV070
SEP
SAP OUT
Q070
DE EMPH
Q071
MUTE
ST LED
SAP LED
F MONO
MUTE
Q002
Q003,004 LEVEL SHIFT
STEREO
F MONO
TA MUTE
L OUT
R OUT
S OUT
CN002
TUNER(L)
TUNER(R)
TUNER(SAP)
AUDIO (MA-82)
SAP
CN001
F MONO
TA MUTE
STEREO
SYSTEM CONTROL (MA-82)
IC003
AFT UP / DOWN DETECT
7V
2.5V
(See Page 104)
MA-82 BOARD
CN001
AFT UP
FT DOWN
TU DATA
TU CLK
ENABLE

3-25. TIMER MODE CONTROL BLOCK DIAGRAM


SWITCH BLOCK (See Page 137)
SLV-686HF
S005 AUDIO INSERT
S004 VIDEO INSERT
S003 ANT TV/VTR
S002 REC MODE SP/EP
S001 TIMER REC
S009 CHANNEL (+)
S008 TRACKING NORMAL
S006 AUTO/ MANUAL
S005 REC
S014 EDIT
S013 CHANNEL (−)
S012 TRACKING SLOW
S011 INPUT SELECT
S010 QUICK TIMER
DUAL MODE SHUTTLE (See Page 135)
SHUTTLE RING (ROTARY SWITCH)
PLAY
STOP
FWD/RVS
RING 2
RING 1
COM
RING 0
PLAY
STOP
CN804
MF-123 BOARD (1/3) (SLV-585HF/686HF) (U/C ONLY)
MF-142 BOARD (1/3) (See Page 141)
S503 COMMAND MODE
S502 EJECT
S501 POWER ON/OFF
SW 5V
D501,502 POWER
S506 CL
CN501
CN805
MF-122 BOARD (1/2) (See Page 135)
CN803
IC801 TIMER/MODE CONTROL
AD 7
AD 5
AD 6
IC805 EEP ROM (NON-VOLATILE MEMORY)
CS
CLK
DI
DO
MECS
ME CLK
ME DATA
CF801 4.19MHz
XTAL
EXAL
X802 32.768kHz
TX
TEX
CT801 CLOCK SET
S802 PAUSE
S801 HI-SPEED REWIND
FWD/RVS
AD 2
AD 1
TRACON CENTER
AD Φ
AD 3
AD 4
BASS BOOST
RESET
IC803 RESET PULSE GEN
UN 5V 5.8V
VDD
VDD
VDD
VREF
C804 BACK-UP
IC802 POWER FAIL DETECT
POWER FAIL
S CLK
S OUT
S IN
COSMO CS
COSMO RST
CG CS
CG H DET
TU DATA
TO ENABLE
TU CLK
AFT DOWN
AFT UP
V FDP
S Φ ~ S 15
TIL ~ T Φ
FL801 FLUORESCENT DISPLAY
D803
RIAS
−35V
AC 3.6V
IC804 REMOTE CONTROL RECEIVER
SIRCS IN
PWM
POWER ON
CN802
S CLK
SI BUS
SO BUS
COSMO CS
COSMO RST
SCLK
SI BUS
COSMO RST
CG CS
CG H DET
SERVO/ SYSTEM CONTROL (MA-82)
VIDEO (MA-82)
TU DATA
TU ENABLE
TU CLK
AFT DOWN
AFT UP
TUNER (TU-130)
CN801
POWER ON
POWER (PS-274)
CNJ001 CONTROL S IN
CN009
Q606,607 SWITCH
MA-82 BOARD (1/6) (See Page 104)
CN017
SIRCS IN
BUZZER
VC PWM
CN303
Q303 BUZZER SWITCH
BZ301 BUZZER
CA-46 BOARD (1/3) (SLV-585HF/686HF) (U/C ONLY)
CA-47 BOARD (1/3)
(See Page 117)

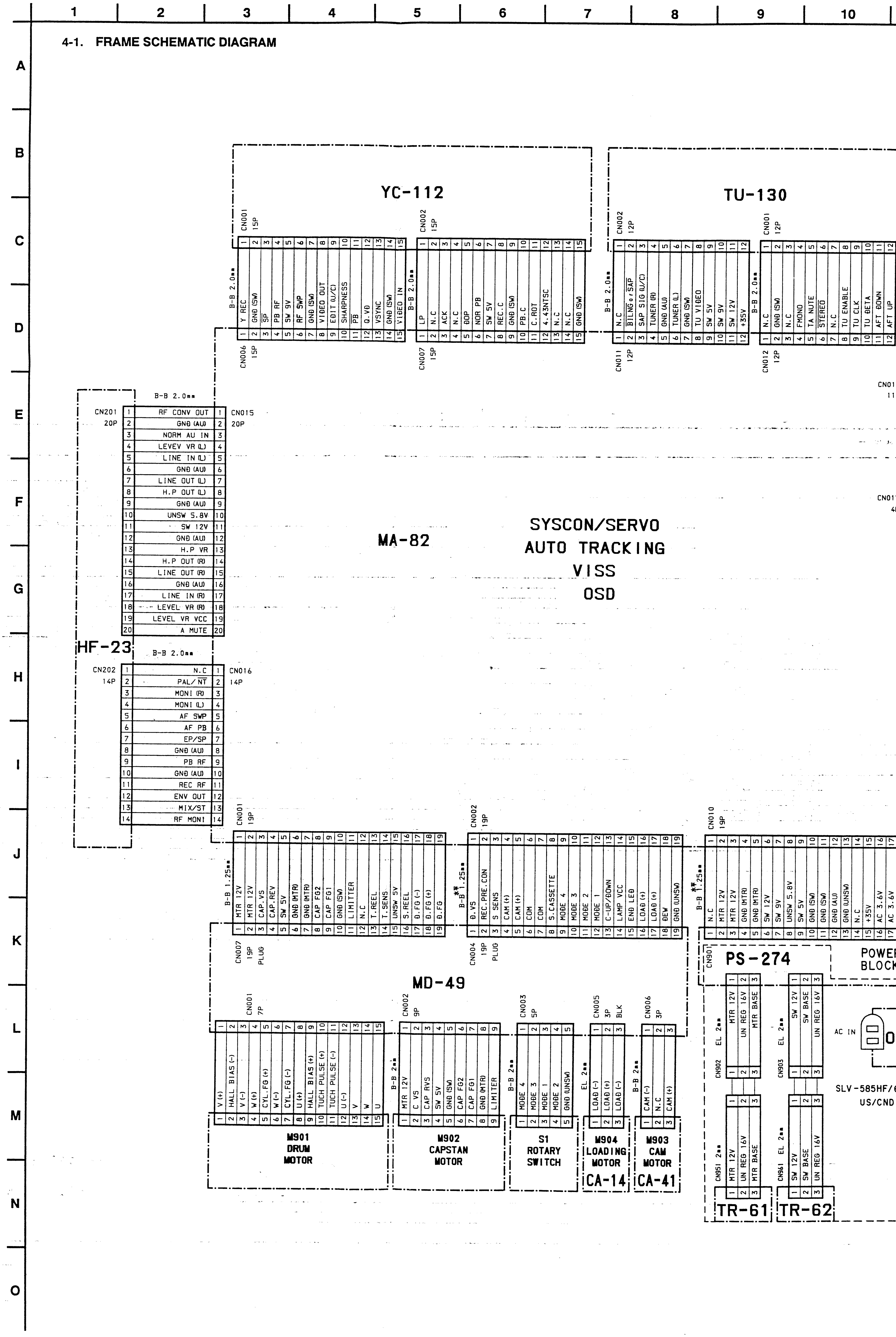
3-26. POWER BLOCK DIAGRAM


(See Page 145)
POWER BLOCK
AC IN
POWER SUPPLY
MTR 12V
SW 12V
SW 9V
+35V
-35V
UNSW 5.8V
SW 5V
AC 3.3V
POWER ON
CN201
CN010
IC401
DRUM ERROR AMP
DRUM PG AMP
AUDIO RF ENV AMP
IC402
CAPSTAN ERROR AMP
CAPSTAN FG AMP
CAM MOTOR
LOADING MOTOR
DRIVE
IC403
D913
UNSW 5V
D601
ON SCREEN DISPLAY
IC601
VIDEO RF ENVELOP DETECT
SERVO/SYSTEM CONTROL CPU
IC501
HALF H KILLER
IC602
CN001
CN002
MD-49 BOARD
MTR 12V
DRUM MOTOR DRIVE
DRUM FG AMP
IC004
T REEL
S REEL
FG
SW 5V
UNSW 5V
CN007
T/S SENS
T/S REEL FG
WAVE SHAPER
IC002
LAMP Vcc
TAPE END SENS LED
CN004
(See Page 114)
CN002
CAPSTAN MOTOR DRIVE
IC1
CAPSTAN FG
CAPSTAN MOTOR
(See Page 113)
(See Page 141)
MF-123 BOARD
(SLV-585HF/686HF)
(U/C ONLY)
S501
POWER ON/OFF
D501, 502
POWER ON/OFF
S506
CL
CN501
MF-142 BOARD
(See Page 135)
MF-122 BOARD
IC801
TIMER/MODE CONTROL
CN805
POWER ON
AD 4
FL801
FLUORESCENT DISPLAY
V FDP
VDD
VDD
VDD
V REF
C804
BACK-UP
D801
POWER FAIL
RESET
RESET PULSE GEN.
IC803
D802
SW 5V
RESET
POWER ON
AC 3.3V
SW 5V
-35V
UNSW 5.8V
CN801
CN008
POWER FAIL DETECT
IC802
REMOTE CONTROL RECEIVER
IC804
EEP ROM
(NON+VOLATILE)
MEMORY
IC805
(See Page 128)
TU-130 BOARD
Q001, D001
+30V
+30V REG
+35V
VHF/UHF TUNER
SW 12V
SW 9V
SW 5V
CN002
CN011
VIF SIF
IC001
MPX DECODER
IC002
HF-23 BOARD
IC201
HIFI AUDIO PROCES
5V REG
IC205
CN201
SW 12V
(See Page 125)
UNSW 5.8V
CN015
(See Page 117)
CA-46 BOARD
(SLV-585HF/686HF)(U/C ONLY)
D306
IC301
UNSW 5.8V
BUFFER
INDEX CONTROL
CTL REC/PB AMP
SW 5V
CN303
IC302
IC201
BIAS/ERASE OSC
NORMAL AUDIO REC PB AMP
SW 9V
CN203
CA-47 BOARD
CN017
CN014
MA-82 BOARD (See Page 104)
RF001
RF MODULATOR
IC102
VIDEO INPUT SELECT
IC103
SW 12V
AUDIO LEVEL DETECT
IC101
SW 9V
AUDIO INPUT SELECT
VIDEO OUT BUFFER
CN101
CN004
CN006
(See Page 95)
RP-112 BOARD
RP-128 BOARD
(SLV-585HF/686HF)
(U/C ONLY)
IC101
CN101
SW 5V
HIFI AUDIO REC/PB AMP
IC801
CN802
SW 5V
VIDEO REC/PB AMP
Q850 ~ 854
SW 9V
FLYING ERASE OSC
YC-112 BOARD
(See Page 101)
CN002
SW 5V
IC004
5V REV
+5V
IC001
Y PROCESS
IC002
CHROMA PROCESS
D008
IC003
SW 9V
CCD 1H DELAY
CN001

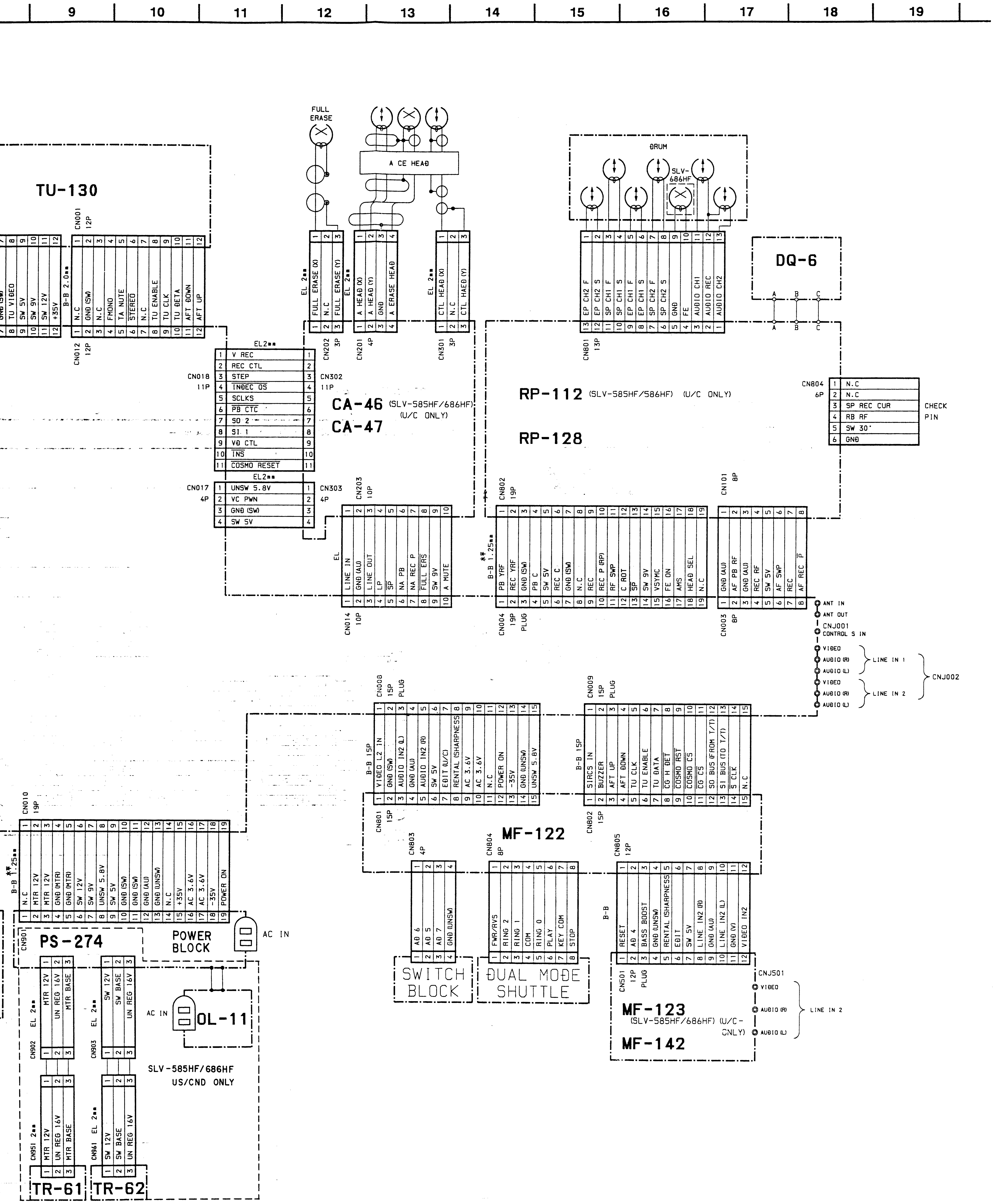
SECTION 4

PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1. FRAME SCHEMATIC DIAGRAM



1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
YC-112
CN001 15P
CN002 15P
Y REC
GND (SW)
SP
PB RF
SW 9V
RF SWP
GND (SW)
VIDEO OUT
EDIT (U/C)
SHARPNESS
PB
Q.VD
VSYNC
GND (SW)
VIDEO IN
LP
N.C
ACK
N.C
DOP
NOR PB
SW 5V
REC.C
GND (SW)
PB.C
C.ROT
4.43NTSC
N.C
GND (SW)
B-B 2.0mm
CN006 15P
CN007 15P
TU-130
CN002 12P
CN001 12P
N.C
BILNG o / SAP
SAP SIG (U/C)
TUNER (R)
GND (AU)
TUNER (L)
GND (SW)
TU VIDEO
SW 5V
SW 9V
SW 12V
+35V
N.C
GND (SW)
N.C
FMONO
TA MUTE
STEREO
N.C
TU ENABLE
TU CLK
TU DETA
AFT DOWN
AFT UP
CN011 12P
CN012 12P
CN01
11
CN01
4
HF-23
CN201 20P
CN015 20P
RF CONV OUT
GND (AU)
NORM AU IN
LEVEV VR (L)
LINE IN (L)
GND (AU)
LINE OUT (L)
H.P OUT (L)
GND (AU)
UNSW 5.8V
SW 12V
GND (AU)
H.P VR
H.P OUT (R)
LINE OUT (R)
GND (AU)
LINE IN (R)
LEVEL VR (R)
LEVEL VR VCC
A MUTE
CN202 14P
CN016 14P
N.C
PAL/NT
MONI (R)
MONI (L)
AF SWP
AF PB
EP/SP
GND (AU)
PB RF
GND (AU)
REC RF
ENV OUT
MIX/ST
RF MONI
MA-82
SYSCON/SERVO
AUTO TRACKING
VISS
OSD
CN001 19P
CN002 19P
CN010 19P
B-B 1.25mm
MTR 12V
MTR 12V
CAP.VS
CAP.REV
SW 5V
GND (MTR)
CAP FG2
CAP FG1
GND (SW)
LIMITTER
N.C
T.REEL
T.SENS
UNSW 5V
S.REEL
D.FG (-)
D.FG (+)
D.FG
D.VS
REC.PRE.CON
S SENS
CAM (+)
CAM (+)
COM
COM
S.CASSETTE
MODE 4
MODE 3
MODE 2
MODE 1
C-UP/DOWN
LAMP VCC
END LED
LOAD (+)
LOAD (+)
BEW
GND (UNSW)
N.C
MTR 12V
GND (MTR)
GND (MTR)
SW 12V
UNSW 5.8V
SW 9V
SW 5V
GND (SW)
GND (SW)
GND (AU)
GND (UNSW)
N.C
+35V
AC 3.6V
AC 3.6V
CN007 19P PLUG
CN004 19P PLUG
MD-49
CN001 7P
CN002 9P
CN003 5P
CN005 3P BLK
CN006 3P
V (+)
HALL BIAS (-)
V (-)
W (+)
CYL.FG (+)
W (-)
CYL.FG (-)
U (+)
HALL BIAS (+)
TUCH PULSE (+)
TUCH PULSE (-)
U (-)
V
W
U
MTR 12V
C VS
CAP RVS
SW 5V
GND (SW)
CAP FG2
CAP FG1
GND (MTR)
LIMITER
MODE 4
MODE 3
MODE 1
MODE 2
GND (UNSW)
LOAD (-)
LOAD (-)
LOAD (-)
CAM (-)
N.C
CAM (+)
B-B 2mm
EL 2mm
M901 DRUM MOTOR
M902 CAPSTAN MOTOR
S1 ROTARY SWITCH
M904 LOADING MOTOR
M903 CAM MOTOR
CA-14
CA-41
CN901
PS-274
POWER BLOCK
CN902
CN903
MTR 12V
UN REG 16V
MTR BASE
SW 12V
SW BASE
UN REG 16V
AC IN
CN951 2mm
CN961 EL 2mm
TR-61
TR-62
SLV-585HF/
US/CND


9
10
11
12
13
14
15
16
17
18
19
TU-130
CN001 12P
B-B 2.0
N.C
GND (SW)
N.C
FMONO
TA NUTE
STEREO
N.C
TU ENABLE
TU CLK
TU DETA
AFT DOWN
AFT UP
TU VIDEO
SW 5V
SW 9V
SW 12V
+35V
CN012 12P
FULL ERASE
A CE HEAD
EL 2
FULL ERASE (X)
N.C
FULL ERASE (Y)
A HEAD (X)
A HEAD (Y)
GND
A ERASE HEAD
CTL HEAD (X)
N.C
CTL HAED (Y)
CN202 3P
CN201 4P
CN301 3P
DRUM
SLV-686HF
EP CH2 F
EP CH2 S
SP CH1 F
SP CH1 S
EP CH1 S
EP CH1 F
SP CH2 F
SP CH2 S
GND
FE
AUDIO CH1
AUDIO REC
AUDIO CH2
CN801 13P
DQ-6
A
B
C
EL2
V REC
REC CTL
STEP
INDEC OS
SCLKS
PB CTC
SO 2
SI 1
VD CTL
INS
COSMO RESET
CN018 11P
CN302 11P
CA-46 (SLV-585HF/686HF) (U/C ONLY)
CA-47
UNSW 5.8V
VC PWN
GND (SW)
SW 5V
CN017 4P
CN303 4P
RP-112 (SLV-585HF/586HF) (U/C ONLY)
RP-128
CN804 6P
N.C
N.C
SP REC CUR
RB RF
SW 30'
GND
CHECK PIN
CN203 10P
EL
LINE IN
GND (AU)
LINE OUT
LP
SP
NA PB
NA REC P
FULL ERS
SW 9V
A MUTE
CN014 10P
CN802 19P
B-B 1.25
PB YRF
REC YRF
GND (SW)
PB C
SW 5V
REC C
GND (SW)
N.C
REC
REC P (RP)
RF SWP
C ROT
SP
SW 9V
VSYMC
FE ON
AMS
HEAD SEL
N.C
CN004 19P PLUG
CN101 8P
GND (AU)
AF PB RF
GND (AU)
REC RF
SW 5V
AF SWP
REC
AF REC P
CN003 8P
ANT IN
ANT OUT
CNJ001
CONTROL S IN
VIDEO
AUDIO (R)
AUDIO (L)
LINE IN 1
LINE IN 2
CNJ002
CN008 15P PLUG
B-B 15P
VIDEO L2 IN
GND (SW)
AUDIO IN2 (L)
GND (AU)
AUDIO IN2 (R)
SW 5V
EDIT (U/C)
RENTAL (SHARPNESS)
AC 3.6V
AC 3.6V
N.C
POWER ON
-35V
GND (UNSW)
UNSW 5.8V
CN009 15P PLUG
SIRCS IN
BUZZER
AFT UP
AFT DOWN
TU CLK
TU ENABLE
TU DATA
CG H DET
COSMO RST
COSMO CS
CG CS
SO BUS (FROM T/T)
SI BUS (TO T/T)
S CLK
N.C
CN801 15P
CN802 15P
MF-122
CN803 4P
CN804 8P
CN805 12P
AD 6
AD 5
AD 7
GND (UNSW)
SWITCH BLOCK
FWR/RVS
RING 2
RING 1
COM
RING 0
PLAY
KEY COM
STOP
DUAL MODE SHUTTLE
B-B
RESET
AD 4
BASS BOOST
GND (UNSW)
RENTAL (SHARPNESS)
EDIT
SW 5V
LINE IN2 (R)
GND (AU)
LINE IN2 (L)
GND (V)
VIDEO IN2
CN501 12P PLUG
CNJ501
MF-123 (SLV-585HF/686HF) (U/C-ONLY)
MF-142
CN010 19P
N.C
MTR 12V
MTR 12V
GND (MTR)
GND (MTR)
SW 12V
SW 9V
UNSW 5.8V
SW 5V
GND (SW)
GND (SW)
GND (AU)
GND (UNSW)
N.C
+35V
AC 3.6V
AC 3.6V
-35V
POWER ON
CN901
PS-274
POWER BLOCK
AC IN
OL-11
CN902
CN903
MTR 12V
UN REG 16V
MTR BASE
SW 12V
SW BASE
UN REG 16V
SLV-585HF/686HF US/CND ONLY
CN951
CN961
TR-61
TR-62

4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this , the necessary note is printed in each block.)

- **For printed wiring boards.**
- ○— : indicated a lead wire mounted on the component side.
- —— : indicated a lead wire mounted on the conductor side.
- ● : Through hole.
- ■ : Parts mounted on the conductor side.
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.
- Circled numbers refer to waveforms.

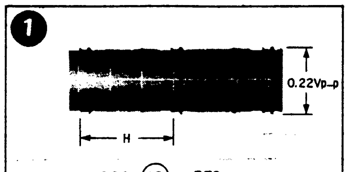
Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component side)	Parts on the parts face side seen from the pattern face are indicated.

- **For schematic diagrams.**
- Caution when replacing chip parts. New parts must be attached after removal of chip. Be careful not to heat the minuts side of tantalum capacitor, because it is damaged by the heat.
- All resistors are in ohms, 1/4W unless otherwise noted. Chip resistor are 1/10W unless otherwise noted. kΩ : 1000Ω , MΩ : 1000kΩ .
- All capacitors are in μF unless otherwise noted. pF: μ μF. 50V or less are not indicated except for electrolytics and tantalums.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.
- ▭ : panel designation.
- △ : internal component.
- ▭ : adjustment for repeair.
- ━━ : B+ Line.
- - - - : B– Line.
- ⇒ : IN/OUT direction of (+, –) B LINE.
- Circled numbers refer to waveforms.
- Voltages are dc between ground and measurement points.
- Readings are taken with a color-bar signal input.
- Readings are taken with a digital multimeter (DC10MΩ).
- Voltages are taken with a VOM (Input impedance 10MΩ).
- Voltage variations may be noted due to normal production tolerances.

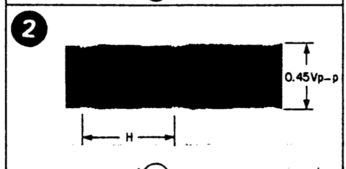
Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safty. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

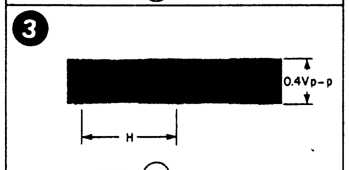
RP-112/128 BOARD



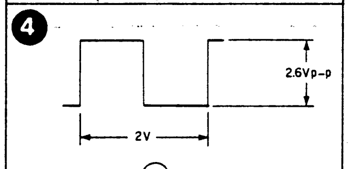
IC801 ⑱ REC



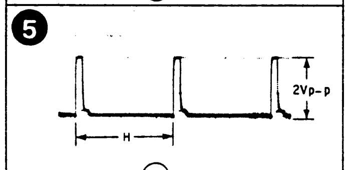
IC801 ⑲ PB



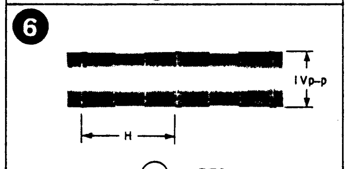
IC801 ㉓ PB



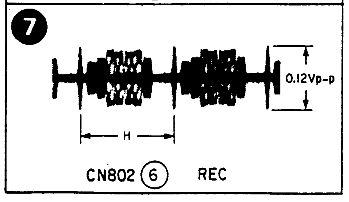
IC801 ㉖ REC/PB



IC801 ㉗ REC/PB



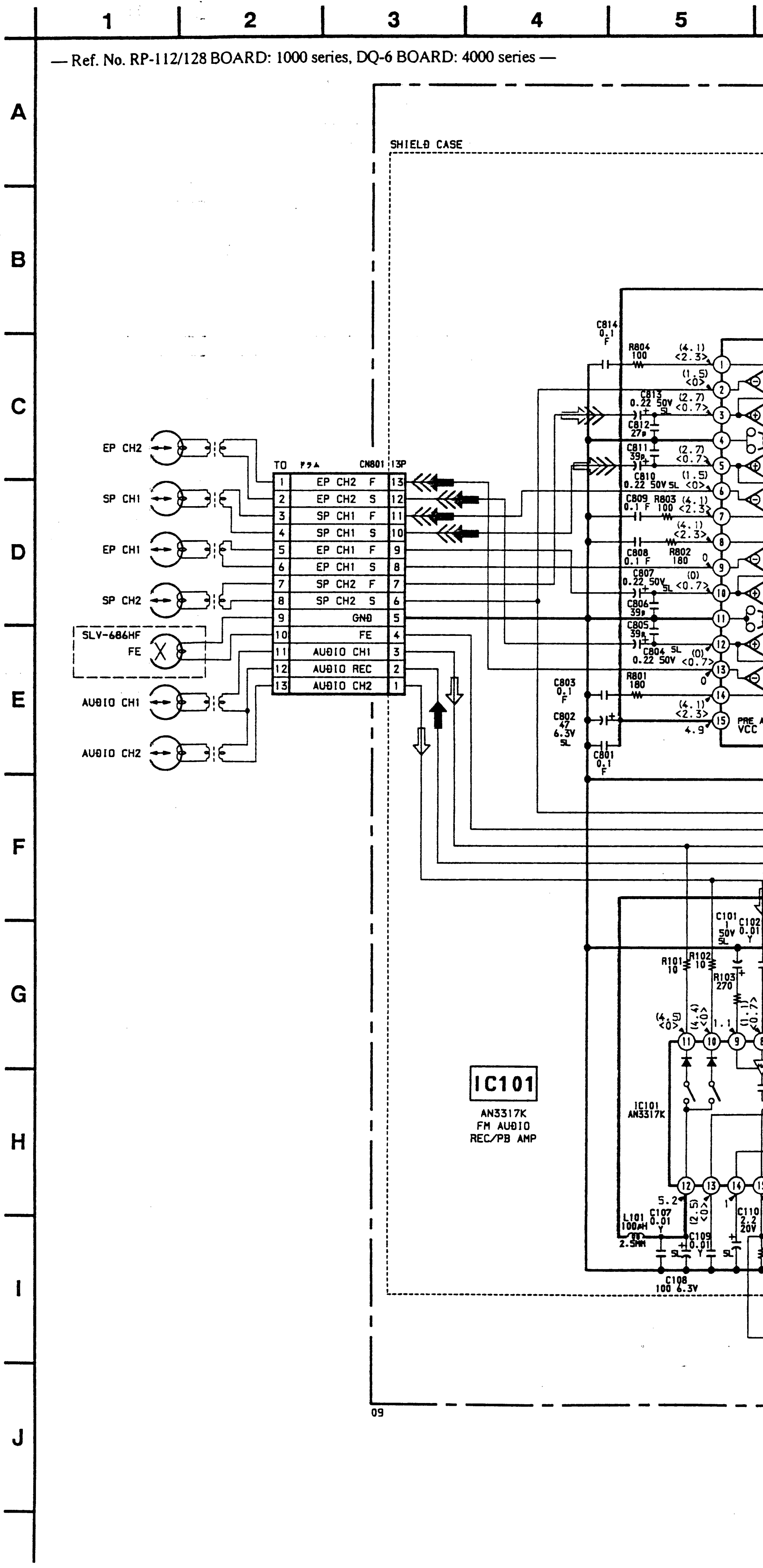
CN802 ② REC

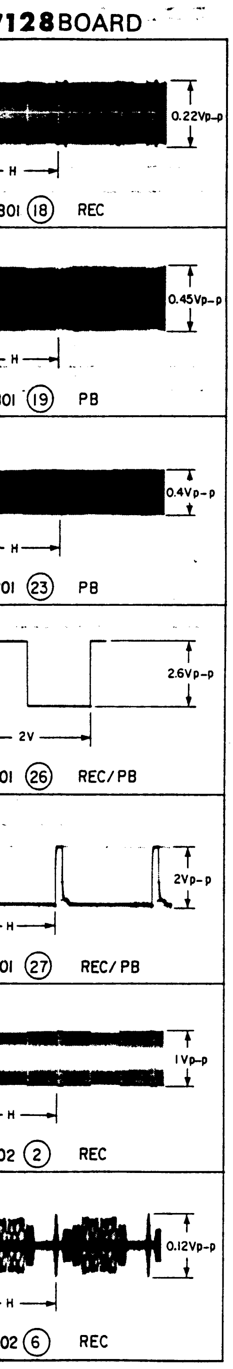


CN802 ⑥ REC

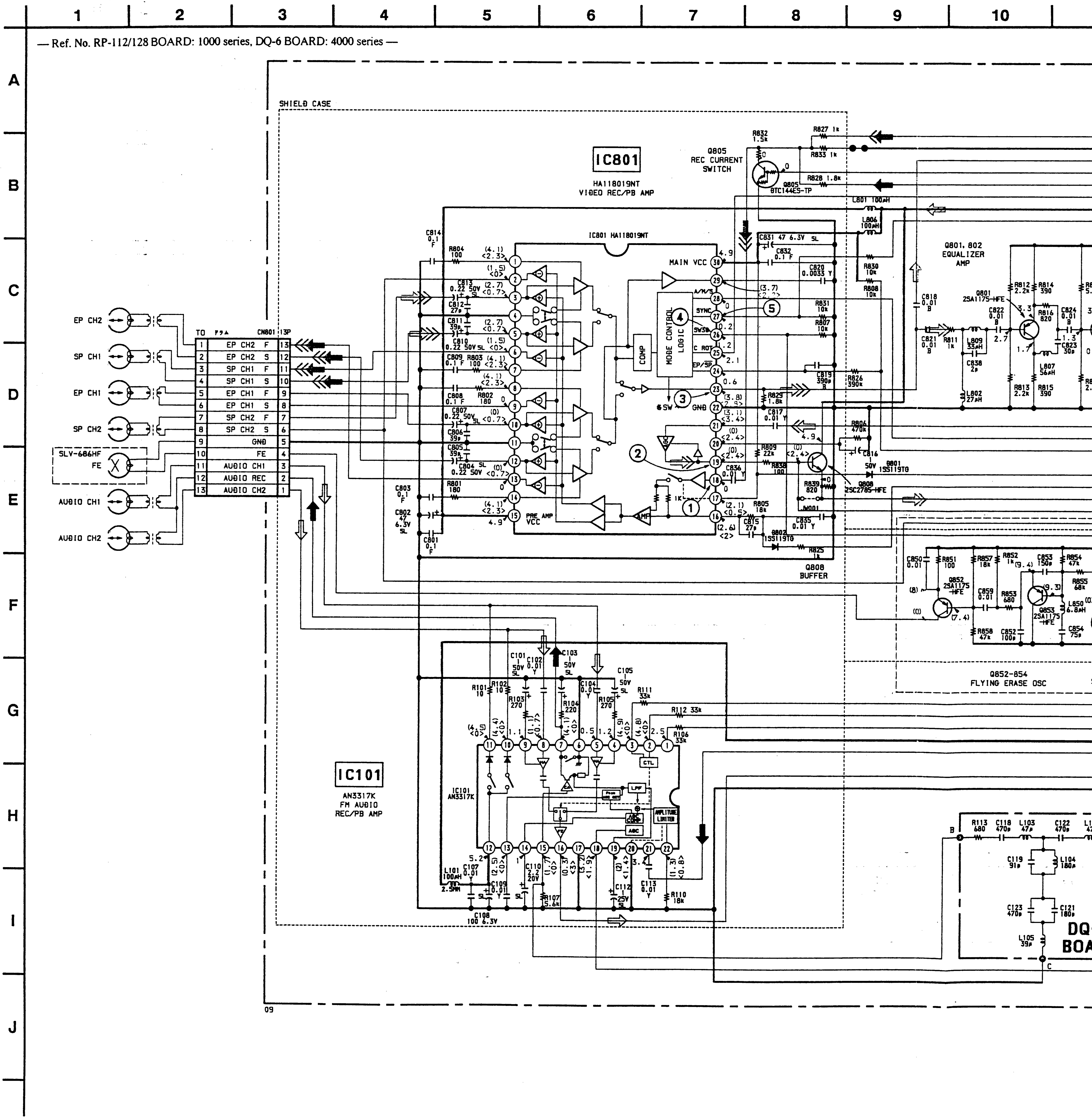
RP-112/128 (REC/PB HEAD AMP), DQ-6 (FILTER) SCHEMATIC DIAGRAMS

— Ref. No. RP-112/128 BOARD: 1000 series, DQ-6 BOARD: 4000 series —


1
2
3
4
5
A
B
C
D
E
F
G
H
I
J
SHIELD CASE
EP CH2
SP CH1
EP CH1
SP CH2
SLV-686HF
FE
AUDIO CH1
AUDIO CH2
TO
CN801 13P
1 EP CH2 F 13
2 EP CH2 S 12
3 SP CH1 F 11
4 SP CH1 S 10
5 EP CH1 F 9
6 EP CH1 S 8
7 SP CH2 F 7
8 SP CH2 S 6
9 GND 5
10 FE 4
11 AUDIO CH1 3
12 AUDIO REC 2
13 AUDIO CH2 1
C814 0.1 F
R804 100
C813 0.22 50V
C812 27p
C811 39p
C810 0.22 50V
C809 0.1 F
R803 100
C808 0.1 F
R802 180
C807 0.22 50V
C806 39p
C805 39p
C804 0.22 50V
R801 180
C803 0.1 F
C802 47 6.3V
C801 0.1 F
PRE VCC
IC101
AN3317K
FM AUDIO
REC/PB AMP
C101 1 50V
C102 0.01
R101 10
R102 10
R103 270
IC101 AN3317K
L101 100μH
C107 0.01
C109 0.01
C110 2.2 20V
C108 100 6.3V
09

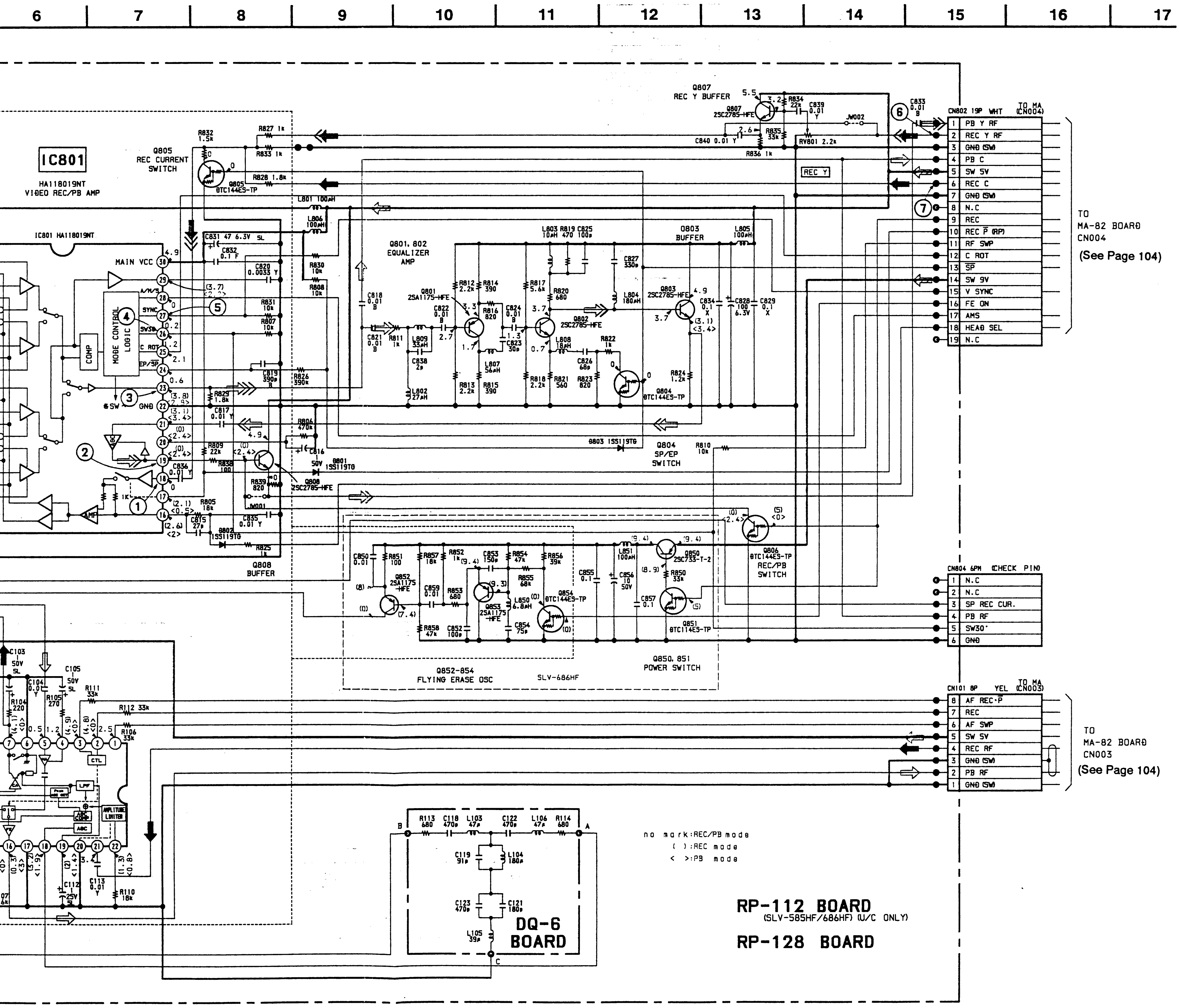


RP-112/128 (REC/PB HEAD AMP), DQ-6 (FILTER) SCHEMATIC DIAGRAMS


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
H
I
J
SHIELD CASE
IC801
HA118019NT
VIDEO REC/PB AMP
Q805
REC CURRENT SWITCH
MAIN VCC
MODE CONTROL LOGIC
COMP
PRE AMP VCC
EP CH2
SP CH1
EP CH1
SP CH2
SLV-686HF FE
AUDIO CH1
AUDIO CH2
CN801 13P
EP CH2 F
EP CH2 S
SP CH1 F
SP CH1 S
EP CH1 F
EP CH1 S
SP CH2 F
SP CH2 S
GND
FE
AUDIO CH1
AUDIO REC
AUDIO CH2
Q801, 802
EQUALIZER AMP
Q808
BUFFER
Q852-854
FLYING ERASE OSC
IC101
AN3317K
FM AUDIO REC/PB AMP
DQ-
BOA

— Ref. No. RP-112/128 BOARD: 1000 series, DQ-6 BOARD: 4000 series —

VIDEO VIDEO



6
7
8
9
10
11
12
13
14
15
16
17
IC801
HA11801SNT
VIDEO REC/PB AMP
Q805
REC CURRENT
SWITCH
Q807
REC Y BUFFER
Q801, 802
EQUALIZER
AMP
Q803
BUFFER
Q804
SP/EP
SWITCH
Q808
BUFFER
MAIN VCC
MODE CONTROL LOGIC
COMP
Q806
REC/PB
SWITCH
Q850, 851
POWER SWITCH
Q852-854
FLYING ERASE OSC
SLV-686HF
CN802 19P WHT
TO MA (CN004)
1 PB Y RF
2 REC Y RF
3 GND (SW)
4 PB C
5 SW 5V
6 REC C
7 GND (SW)
8 N.C
9 REC
10 REC P (RP)
11 RF SWP
12 C ROT
13 SP
14 SW 9V
15 V SYNC
16 FE ON
17 AMS
18 HEAD SEL
19 N.C
TO
MA-82 BOARD
CN004
(See Page 104)
CN804 6PH (CHECK PIN)
1 N.C
2 N.C
3 SP REC CUR.
4 PB RF
5 SW30'
6 GND
CN101 8P YEL TO MA (CN003)
8 AF REC·P
7 REC
6 AF SWP
5 SW 5V
4 REC RF
3 GND (SW)
2 PB RF
1 GND (SW)
TO
MA-82 BOARD
CN003
(See Page 104)
REC Y
DQ-6
BOARD
no mark:REC/PB mode
( ):REC mode
< >:PB mode
RP-112 BOARD
(SLV-585HF/686HF) (U/C ONLY)
RP-128 BOARD

- **SIGNAL PATH**

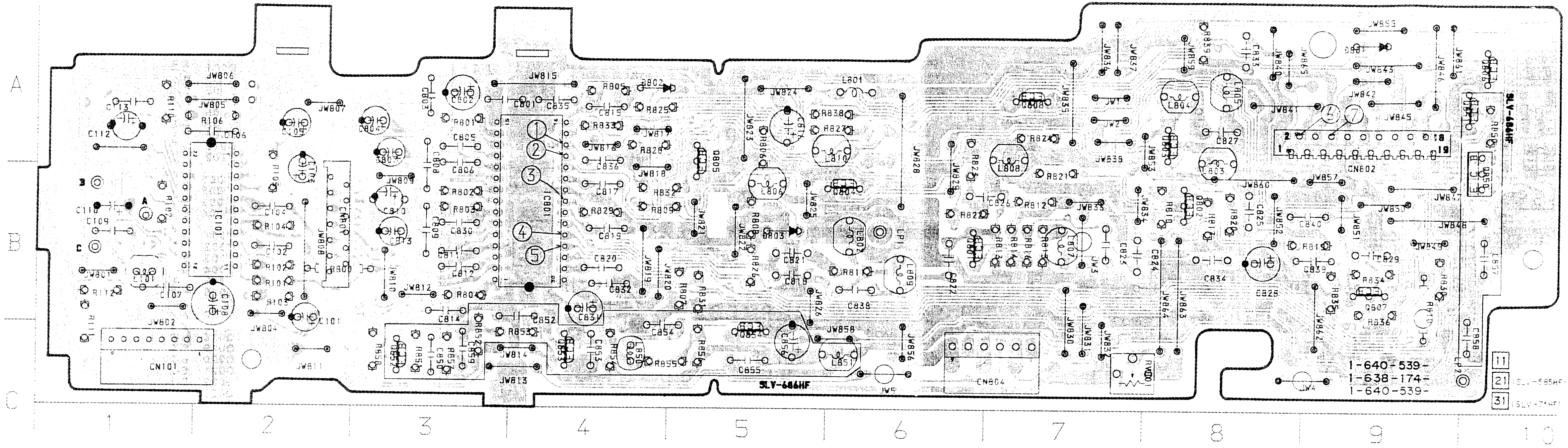
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡»	➡»	➡
PB	⇨	⇨»	⇨»	⇨

VIDEO VIDEO

RP-112/128 (REC/PB HEAD AMP), DQ-6 (FILTER) PRINTED WIRING BOARDS

— Ref. No. RP-112/128 BOARD: 1000 series, DQ-6 BOARD: 4000 series —

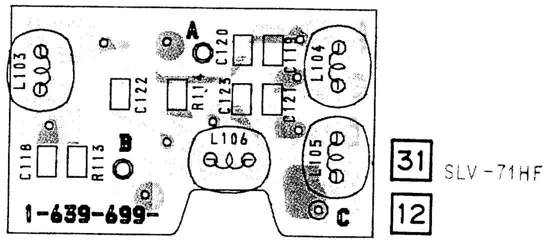
RP-112 BOARD (SLV-585HF/686HF)(U/C ONLY)
RP-128 BOARD


A
B
C
1
2
3
4
5
6
7
8
9
10
CN101
IC101
IC801
CN804
CN802
SLV-686HF
1-640-539-
1-638-174-
1-640-539-
11
21 (SLV-585HF/686HF (U/C model))
31 (SLV-71HF)

RP-112/128
BOARD

CN101	C-1
CN801	B-2
CN802	B-9
CN804	C-6
D801	A-9
D802	A-4
D803	B-5
IC101	B-2
IC801	B-4
Q801	B-6
Q802	B-8
Q803	B-8
Q804	B-6
Q805	B-5
Q806	A-10
Q807	B-9
Q808	A-7
Q850	B-10
Q851	A-10
Q852	C-3
Q853	C-4
Q854	C-5
RV801	C-7

DQ-6 BOARD


L103
L104
L105
L106
C118
C119
C120
C121
C122
C123
R113
R114
A
B
C
1-639-699-
31
SLV-71HF
12

PR-112/128 BOARD, COMPLETE
****

DQ-6 BOARD
****

< DIODE >

D801	8-719-911-19	DIODE	1SS119
D802	8-719-911-19	DIODE	1SS119
D803	8-719-911-19	DIODE	1SS119

< IC >

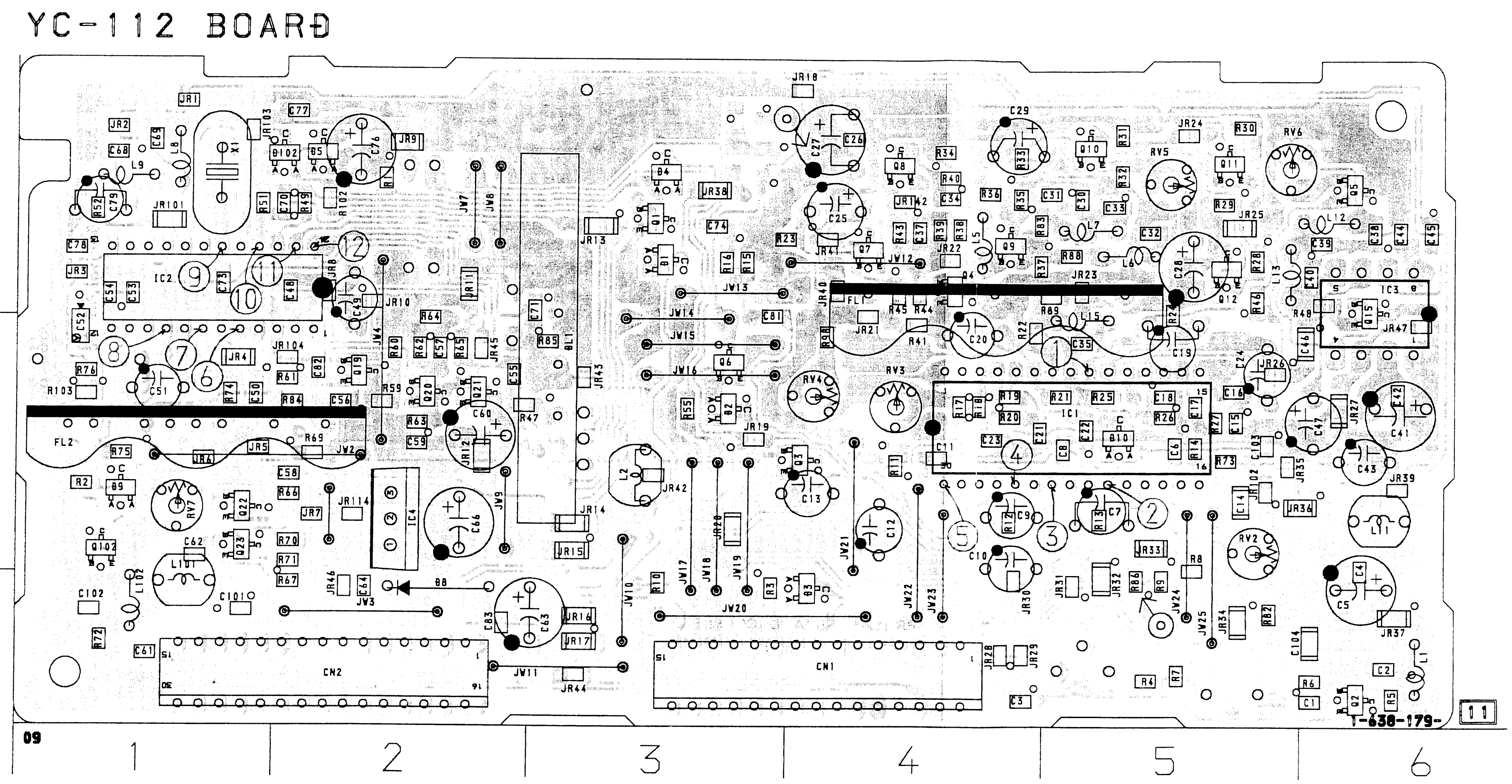
IC101	8-759-421-19	IC	AN3317K
IC801	8-759-320-52	IC	HA118019NT

< TRANSISTOR >

Q801	8-729-119-76	TRANSISTOR	2SA1175-HFE
Q802	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q803	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q804	8-729-900-89	TRANSISTOR	DTC144ES
Q805	8-729-900-89	TRANSISTOR	DTC144ES
Q806	8-729-900-89	TRANSISTOR	DTC144ES
Q807	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q808	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q850	8-729-113-31	TRANSISTOR	2SB733-T-2 (SLV-686HF)
Q851	8-729-900-81	TRANSISTOR	DTC114ES (SLV-686HF)
Q852	8-729-119-76	TRANSISTOR	2SA1175-HFE (SLV-686HF)
Q853	8-729-119-76	TRANSISTOR	2SA1175-HFE (SLV-686HF)
Q854	8-729-900-89	TRANSISTOR	DTC144ES (SLV-586HF)

YC-112 (VIDEO PROCESS) PRINTED WIRING BOARD

— Ref. No. YC-112 BOARD: 2000 series —



YC-112 BOARD	
CN001	C-4
CN002	C-2
D001	A-3
D002	B-3
D003	C-4
D004	A-3
D005	A-2
D008	C-2
D009	B-1
D010	B-5
D102	A-2
IC001	B-5
IC002	A-1
IC003	B-6
IC004	B-2
Q001	A-3
Q002	C-6
Q003	B-4
Q004	A-4
Q005	A-6
Q006	B-3
Q007	A-4
Q010	A-5
Q011	A-5
Q015	B-6
Q019	B-2
Q020	B-2
Q021	B-2
Q022	B-1
Q023	B-1
Q102	B-1
RV002	C-2
RV003	B-4
RV004	B-4
RV005	A-5
RV006	A-5
RV007	B-1

YC-112 BOARD, COMPLETE
****

< DIODE >

D001	8-719-400-18	DIODE	MA152WK
D002	8-719-400-18	DIODE	MA152WK
D003	8-719-400-18	DIODE	MA152WK
D004	8-719-400-18	DIODE	MA152WK
D005	8-719-400-18	DIODE	MA152WK
D008	8-719-200-82	DIODE	11ES2
D009	8-719-400-18	DIODE	MA152WK
D010	8-719-400-18	DIODE	MA152WK
D102	8-719-400-18	DIODE	MA152WK

< IC >

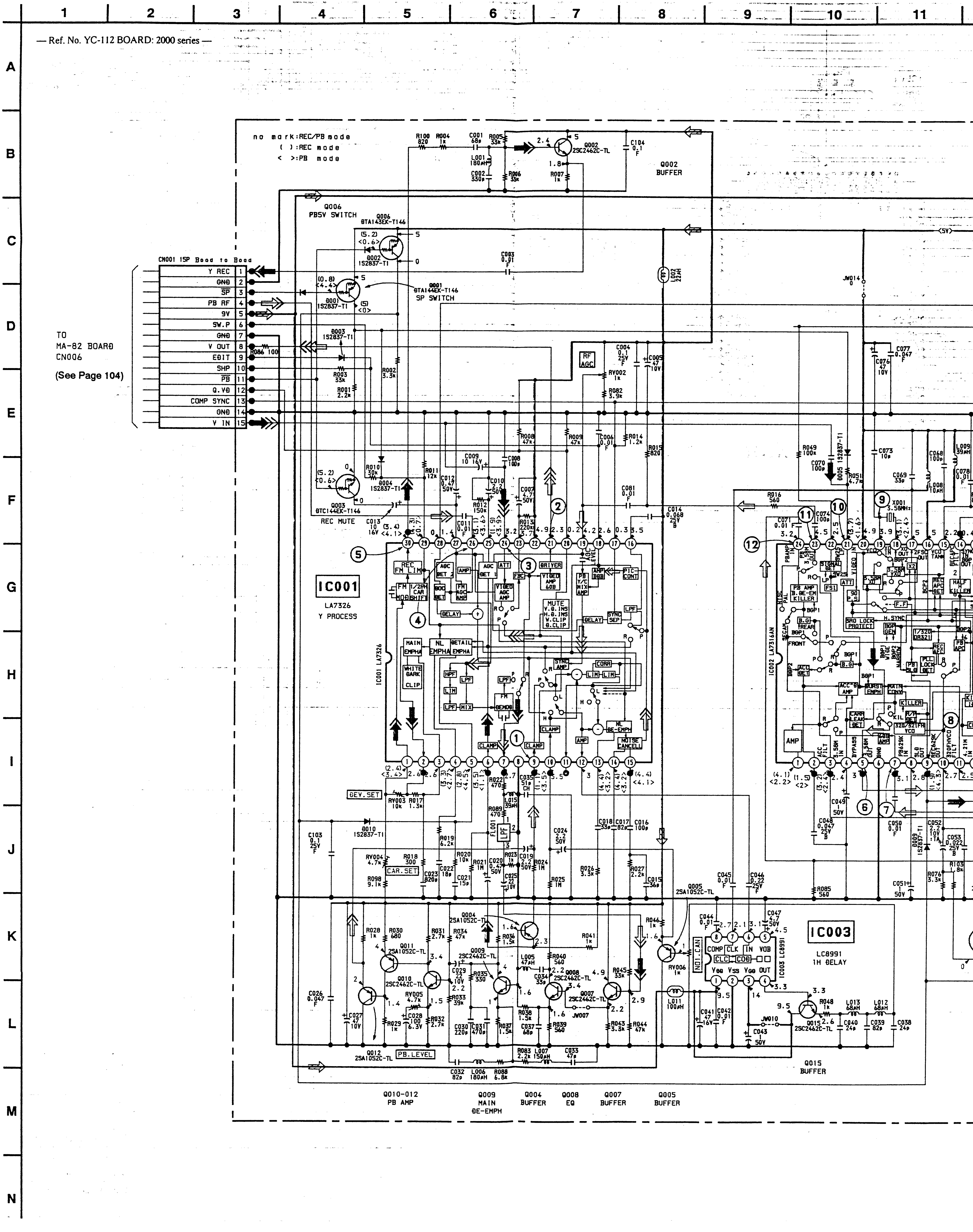
IC001	8-759-821-62	IC	LA7326
IC002	8-759-821-87	IC	LA7316AN
IC003	8-759-821-50	IC	LC8991
IC004	8-759-938-15	IC	BA178M05

< TRANSISTOR >

Q001	8-729-901-06	TRANSISTOR	DTA144EK
Q002	8-729-620-06	TRANSISTOR	2SC3052-LEF
Q003	8-729-901-01	TRANSISTOR	DTC144EK
Q004	8-729-820-76	TRANSISTOR	2SA1179-M5M6
Q005	8-729-820-76	TRANSISTOR	2SA1179-M5M6
Q006	8-729-901-47	TRANSISTOR	DTA143EK
Q007	8-729-620-06	TRANSISTOR	2SC3052-EF
Q008	8-729-230-49	TRANSISTOR	2SC2712G-TE85L
Q009	8-729-230-49	TRANSISTOR	2SC2712G-TE85L
Q010	8-729-230-49	TRANSISTOR	2SC2712G-TE85L
Q011	8-729-820-76	TRANSISTOR	2SA1179-M5M6
Q012	8-729-820-76	TRANSISTOR	2SA1179-M5M6
Q015	8-729-230-49	TRANSISTOR	2SC2712G-TE85L
Q019	8-729-620-06	TRANSISTOR	2SC3052-EF
Q020	8-729-230-49	TRANSISTOR	2SC2712G-TE85L
Q021	8-729-620-06	TRANSISTOR	2SC3052EF-T1-LEF
Q022	8-729-820-76	TRANSISTOR	2SA1179-M5M6
Q023	8-729-620-06	TRANSISTOR	2SC3052-EF
Q102	8-729-900-53	TRANSISTOR	DTC114EK

YC-112 (VIDEO PROCESS) SCHEMATIC DIAGRAM

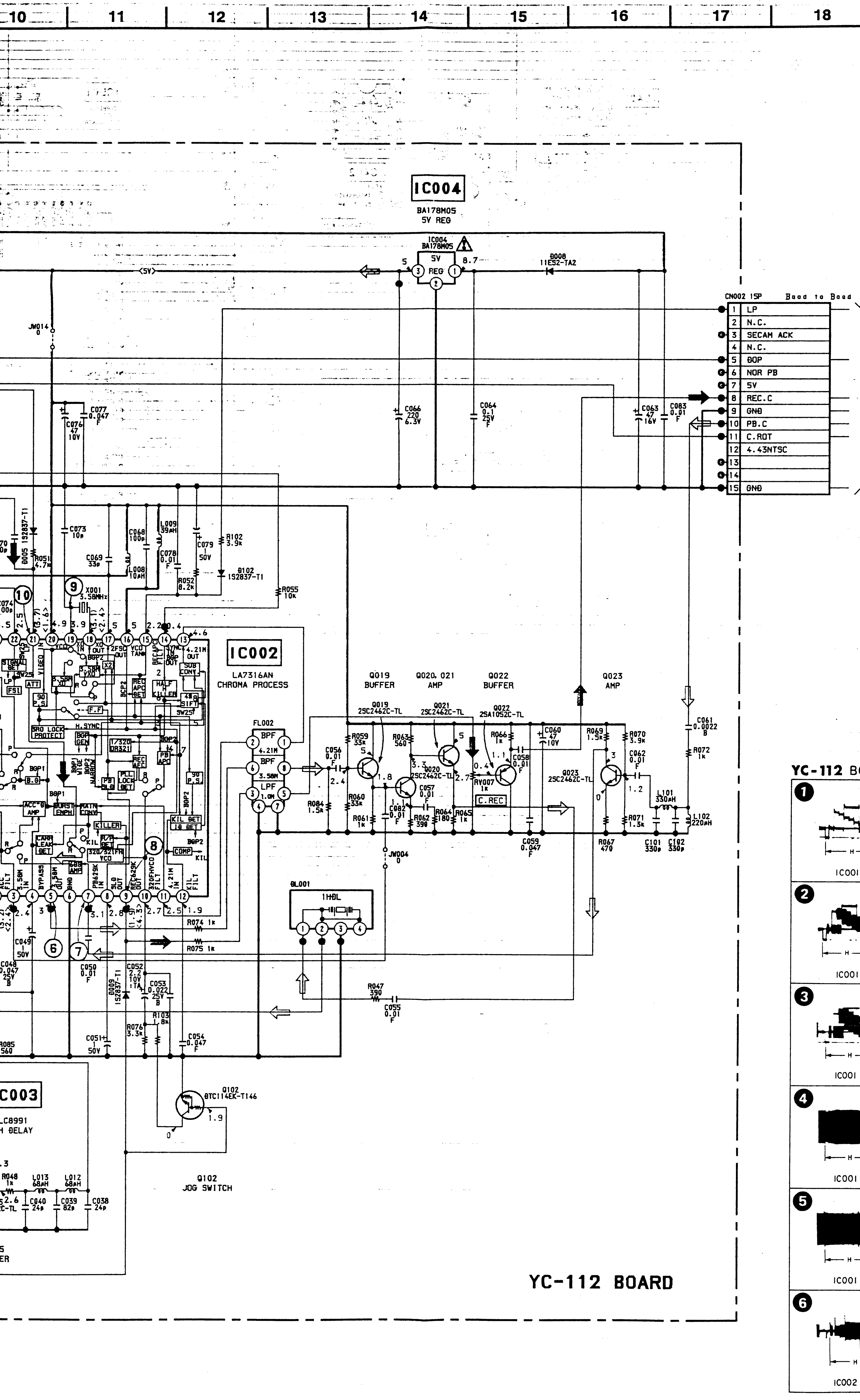
— Ref. No. YC-112 BOARD: 2000 series —



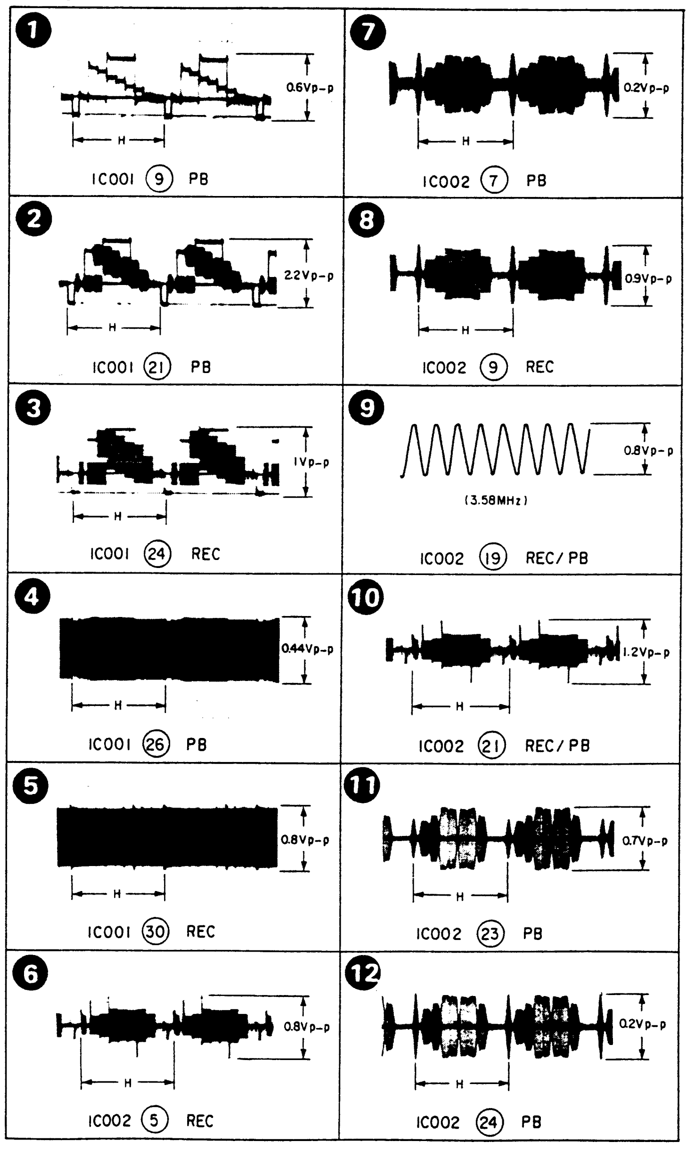
1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
N
no mark:REC/PB mode
( ):REC mode
< >:PB mode
TO
MA-82 BOARD
CN006
(See Page 104)
CN001 15P Board to Board
Y REC
GND
SP
PB RF
9V
SW.P
GND
V OUT
EDIT
SHP
PB
Q.VD
COMP SYNC
GND
V IN
Q006
PBSV SWITCH
Q006
DTA143EK-T146
Q002
1S2837-T1
Q001
DTA144EK-T146
SP SWITCH
D001
1S2837-T1
D003
1S2837-T1
Q003
DTC144EK-T146
REC MUTE
D004
1S2837-T1
Q002
2SC2462C-TL
Q002
BUFFER
IC001
LA7326
Y PROCESS
RF AGC
DEV.SET
CAR.SET
PB.LEVEL
Q010-012
PB AMP
Q009
MAIN
DE-EMPH
Q004
BUFFER
Q008
EQ
Q007
BUFFER
Q005
BUFFER
IC003
LC8991
1H DELAY
Q015
BUFFER
Q015
2SC2462C-TL
IC002 LA7316AN
X001
3.58MHz

- SIGNAL PATH

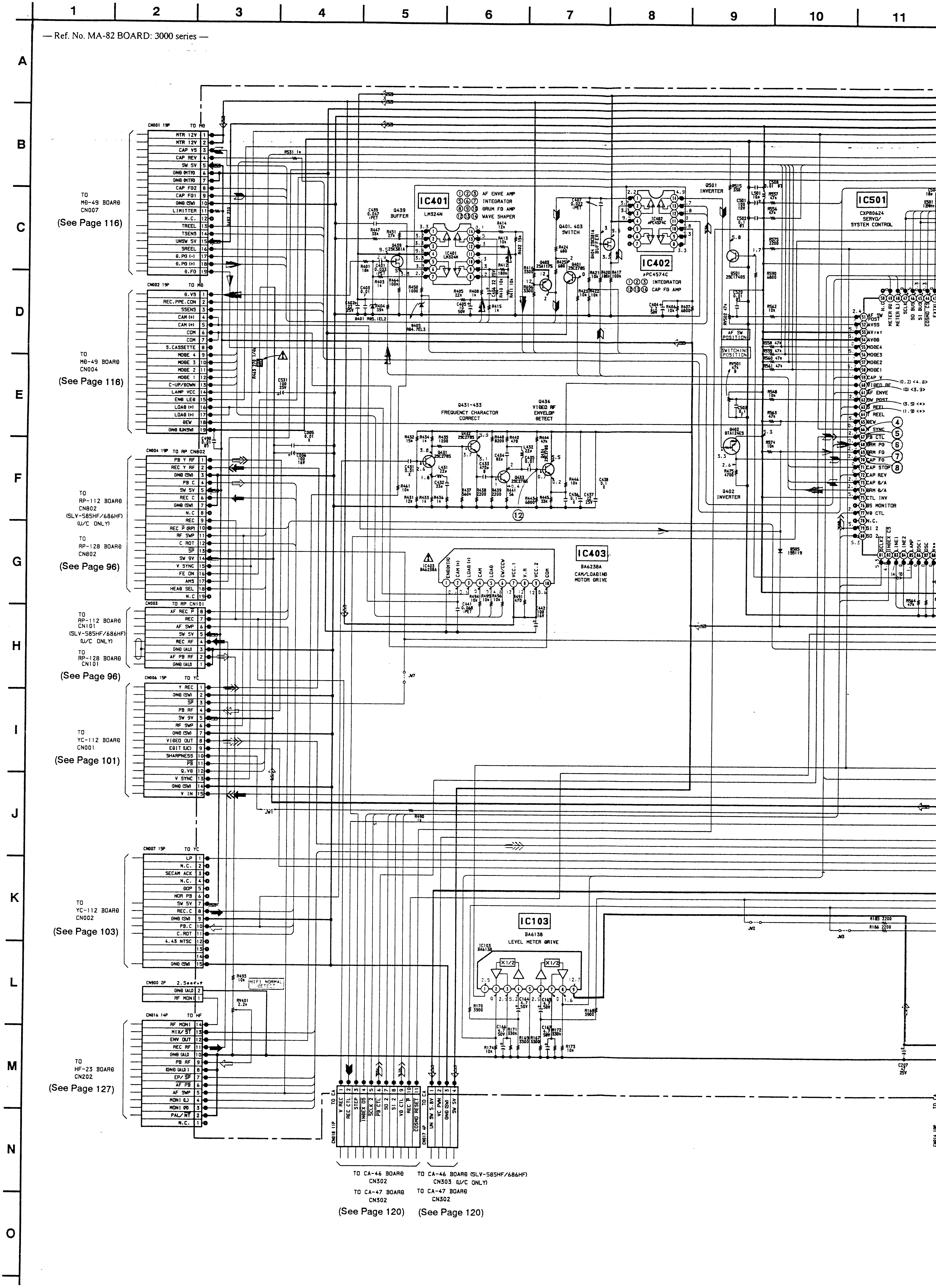
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡	➡	
PB	⇨	⇨	⇨	

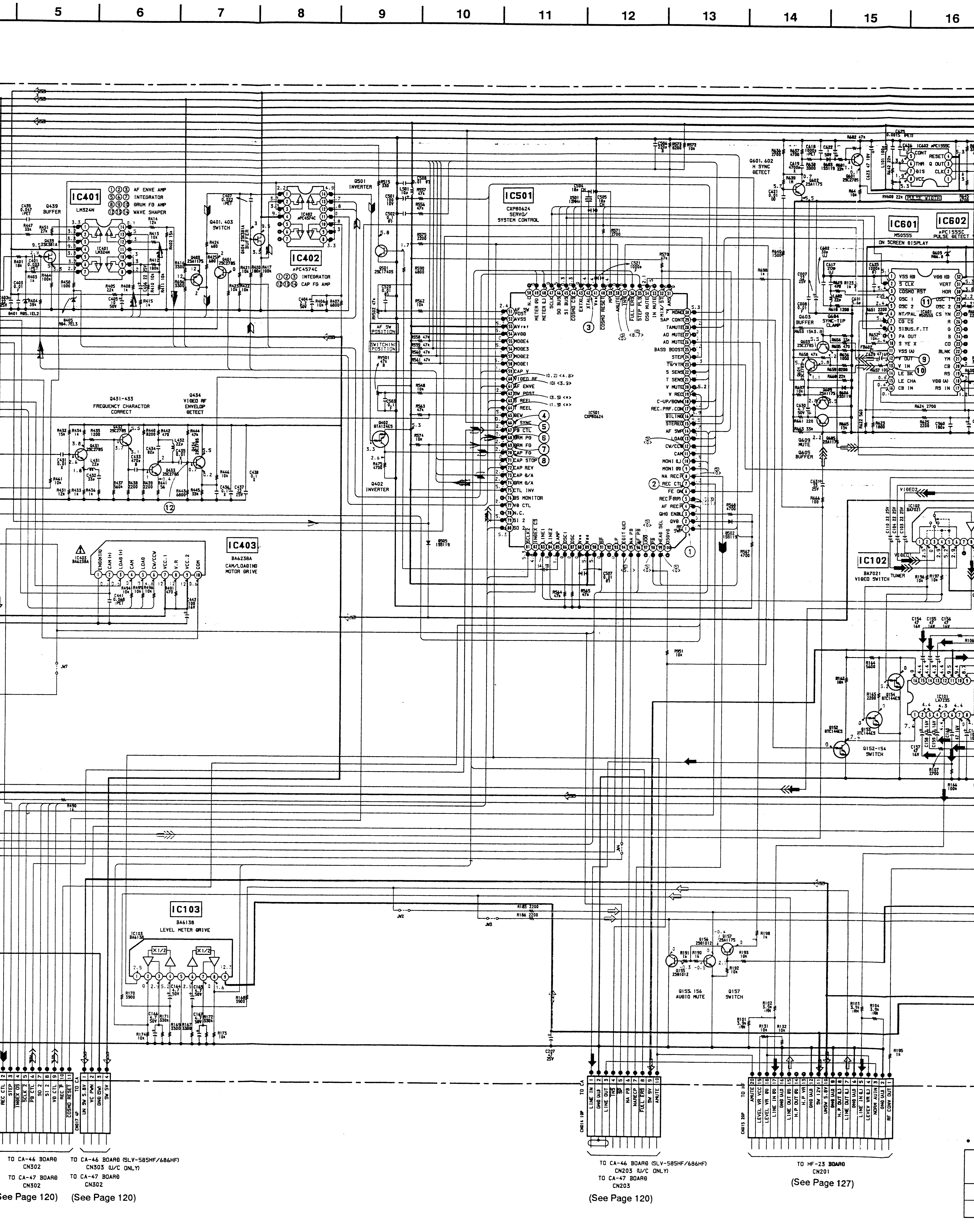

10
11
12
13
14
15
16
17
18
19
20
21
IC004
BA178M05
5V REG
IC004 BA178M05
5V
REG
8.7
D008 11ES2-TA2
<5V>
JW014 0
CN002 15P Bood to Bood
1 LP
2 N.C.
3 SECAM ACK
4 N.C.
5 BOP
6 NOR PB
7 5V
8 REC.C
9 GND
10 PB.C
11 C.ROT
12 4.43NTSC
13
14
15 GND
TO MA-82 BOARD CN007
(See Page 104)
C066 220 6.3V
C064 0.1 25V F
C063 47 16V
C083 0.01 F
C076 47 10V
C077 0.047 F
C073 10p
C068 100p
L009 39μH
C079 1 50V
R102 3.9k
C069 33p
L008 10μH
C078 0.01 F
R052 8.2k
D102 1S2837-T1
R055 10k
X001 3.58MHz
IC002
LA7316AN
CHROMA PROCESS
Q019 BUFFER
Q020, 021 AMP
Q022 BUFFER
Q023 AMP
Q019 2SC2462C-TL
Q021 2SC2462C-TL
Q022 2SA1052C-TL
Q020 2SC2462C-TL
Q023 2SC2462C-TL
FL002
BPF 4.21M
BPF 3.58M
LPF 1.0M
R059 33k
R063 560
R066 1k
C060 47 10V
R069 1.5k
R070 3.9k
C056 0.01 F
C058 0.01
C062 0.01 F
C061 0.0022 B
R072 1k
RV007 1k
C.REC
R060 33k
C057 0.01
R084 1.5k
R061 1k
C082 0.01 F
R062 390
R064 180
R065 1k
C059 0.047 F
R067 470
R071 1.5k
L101 330μH
C101 330p
C102 330p
L102 220μH
JW004 0
DL001 1HDL
R074 1k
R075 1k
R047 390
C055 0.01 F
C049 1 50V
C048 0.047 25V B
C050 0.01 F
C052 2.2 10V TA
D009 1S2837-T1
C053 0.022 25V B
R103 1.8k
R076 3.3k
C051 1 50V
C054 0.047 F
Q102 BTC114EK-T146
Q102 JOG SWITCH
IC003
LC8991
H DELAY
R048 1k
L013 68μH
L012 68μH
C040 24p
C039 82p
C038 24p
R085 560
D005 1S2837-T1
R051 4.7k
YC-112 BOARD

YC-112 BOARD



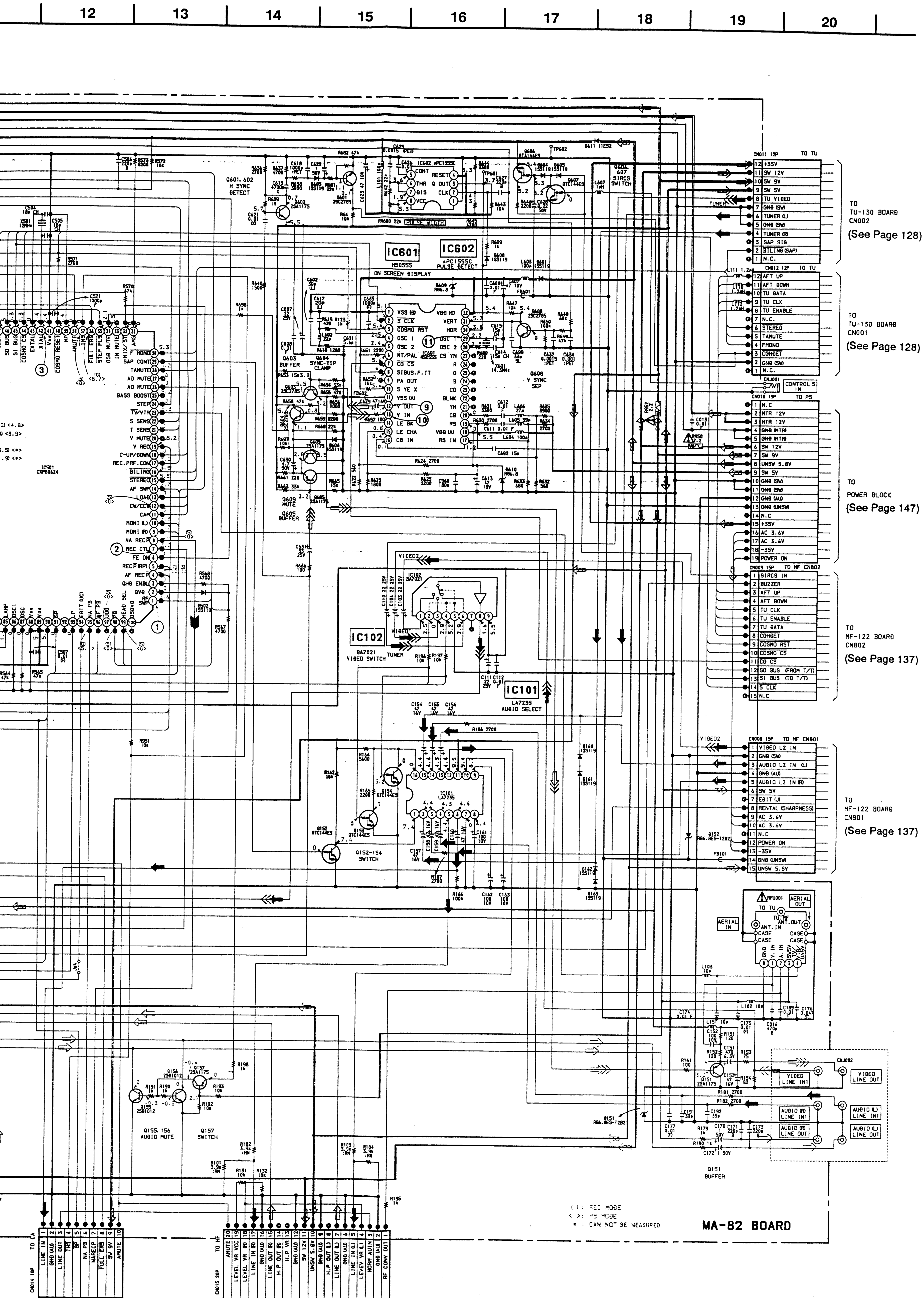
MA-82 (SERVO/SYSTEM CONTROL) SCHEMATIC DIAGRAM


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
— Ref. No. MA-82 BOARD: 3000 series —
CN001 19P TO MD
MTR 12V
MTR 12V
CAP VS
CAP REV
SW 5V
GND (MTR)
GND (MTR)
CAP FG2
CAP FG1
GND (SW)
LIMITTER
N.C.
TREEL
TSENS
UNSW 5V
SREEL
D.PG (−)
D.PG (+)
D.FG
TO MD-49 BOARD CN007
(See Page 116)
CN002 19P TO MD
D.VS
REC.PPE.CON
SSENS
CAM (+)
CAM (+)
COM
COM
S.CASSETTE
MODE 4
MODE 3
MODE 2
MODE 1
C-UP/DOWN
LAMP VCC
END LED
LOAD (+)
LOAD (+)
DEW
GND (UNSW)
TO MD-49 BOARD CN004
(See Page 116)
CN004 19P TO RP CN802
PB Y RF
REC Y RF
GND (SW)
PB C
SW 5V
REC C
GND (SW)
N.C
REC
REC P (RP)
RF SWP
C ROT
SP
SW 9V
V SYNC
FE ON
AMS
HEAD SEL
N.C
TO RP-112 BOARD CN802 (SLV-585HF/686HF) (U/C ONLY)
TO RP-128 BOARD CN802
(See Page 96)
CN003 TO RP CN101
AF REC P
REC
AF SWP
SW 5V
REC RF
GND (AU)
AF PB RF
GND (AU)
TO RP-112 BOARD CN101 (SLV-585HF/686HF) (U/C ONLY)
TO RP-128 BOARD CN101
(See Page 96)
CN006 15P TO YC
Y REC
GND (SW)
SP
PB RF
SW 9V
RF SWP
GND (SW)
VIDEO OUT
EDIT (UC)
SHARPNESS
PB
Q.VD
V SYNC
GND (SW)
V IN
TO YC-112 BOARD CN001
(See Page 101)
CN007 15P TO YC
LP
N.C.
SECAM ACK
N.C.
DOP
NOR PB
SW 5V
REC.C
GND (SW)
PB.C
C.ROT
4.43 NTSC
GND (SW)
TO YC-112 BOARD CN002
(See Page 103)
CN900 2P
GND (AU)
RF MONI
HIFI NORMAL DETECT
RV401 2.2k
CN016 14P TO HF
RF MONI
MIX/ST
ENV OUT
REC RF
GND (AU)
PB RF
GND (AU)
EP/SP
AF PB
AF SWP
MONI (L)
MONI (R)
PAL/NT
N.C.
TO HF-23 BOARD CN202
(See Page 127)
IC401
LM324N
①②③ AF ENVE AMP
⑤⑥⑦ INTEGRATOR
⑧⑨⑩ DRUM FG AMP
⑫⑬⑭ WAVE SHAPER
Q439 BUFFER
Q439 2SK381A
Q401, 403 SWITCH
Q403 2SA1175
Q401 2SC2785
Q404 2SC2785 BUFFER
IC402
μPC4574C
①②③ INTEGRATOR
⑫⑬⑭ CAP FG AMP
Q501 INVERTER
Q501 2SC1740S
AF SW POSITION
SWITCHING POSITION
RV501 47k
Q402 DTA124ES
Q402 INVERTER
IC501
CXP80624
SERVO/ SYSTEM CONTROL
X501 12MHz
Q431-433 FREQUENCY CHARACTOR CORRECT
Q434 VIDEO RF ENVELOP DETECT
Q431 2SC2785
Q432 2SC2785
Q433 2SC2785
Q434 2SC2785
⑫
IC403
BA6238A
CAM/LOADING MOTOR DRIVE
D505 1SS119
IC103
BA6138
LEVEL METER DRIVE
X1/2
X1/2
JW1
JW2
JW3
JW7
R490
R185 2200
R186 2200
C207 47 25V
AF SW POST
AVSS
AVref
AVDD
MODE4
MODE3
MODE2
MODE1
CAP V
VIDEO RF
AF ENVE
SW POST
REEL
T REEL
DEW
SYNC
PB CTL
DRM PG
DRM FG
CAP FG
CAP STOP
CAP REV
CAP D/A
DRM D/A
CTL INV
SS MONITOR
VD CTL
N.C.
SI 2
SO 2
④
⑤
⑥
⑦
⑧
CN018 11P TO CA
V REC
REC CTL
STEP
INDEX DS
SCLK 2
PB CTL
SO 2
SI 2
VD CTL
REC P
COSMO RESET
CN017 4P TO CA
UN SW 5.8V
VC PWM
GND (SW)
SW 5V
TO CA-46 BOARD CN302
TO CA-47 BOARD CN302
(See Page 120)
TO CA-46 BOARD (SLV-585HF/686HF) CN303 (U/C ONLY)
TO CA-47 BOARD CN302
(See Page 120)


5
6
7
8
9
10
11
12
13
14
15
16
IC401
LM324N
①②③ AF ENVE AMP
⑤⑥⑦ INTEGRATOR
⑧⑨⑩ DRUM FG AMP
⑫⑬⑭ WAVE SHAPER
Q439 BUFFER
Q401, 403 SWITCH
Q404 2SC5B1A BUFFER
IC402
µPC4574C
①②③ INTEGRATOR
⑫⑬⑭ CAP FG AMP
Q501 INVERTER
IC501
CXP80624
SERVO/SYSTEM CONTROL
AF SW POSITION
SWITCHING POSITION
Q431-433 FREQUENCY CHARACTOR CORRECT
Q434 VIDEO RF ENVELOP DETECT
Q402 INVERTER
IC403
BA6238A
CAM/LOADING MOTOR DRIVE
Q601, 602 H SYNC DETECT
IC601
M50555
ON SCREEN DISPLAY
IC602
µPC1555C
PULSE DETECT
Q603 BUFFER
Q604 SYNC-TIP CLAMP
Q609 MUTE
Q605 BUFFER
IC102
BA7021
VIDEO SWITCH
IC101
LA7235
Q152-154 SWITCH
IC103
BA6138
LEVEL METER DRIVE
Q155, 156 AUDIO MUTE
Q157 SWITCH
TO CA-46 BOARD CN302
TO CA-47 BOARD CN302
(See Page 120)
TO CA-46 BOARD (SLV-585HF/686HF) CN303 (U/C ONLY)
TO CA-47 BOARD CN302
(See Page 120)
TO CA-46 BOARD (SLV-585HF/686HF) CN203 (U/C ONLY)
TO CA-47 BOARD CN203
(See Page 120)
TO HF-23 BOARD CN201
(See Page 127)

SERVO/SYSTEM CONTROL

SERVO/S


12
13
14
15
16
17
18
19
20
IC601
M50555
ON SCREEN DISPLAY
IC602
µPC1555C
PULSE DETECT
Q601, 602
H SYNC
DETECT
Q606
607
SIRCS
SWITCH
PULSE WIDTH
Q603
BUFFER
Q604
SYNC-TIP
CLAMP
Q608
V SYNC
SEP
Q609
MUTE
Q605
BUFFER
IC501
CXP80424
IC102
BA7021
VIDEO SWITCH
IC101
LA7235
AUDIO SELECT
Q152-154
SWITCH
Q155, 156
AUDIO MUTE
Q157
SWITCH
Q151
BUFFER
CN011 12P TO TU
12 +35V
11 SW 12V
10 SW 9V
9 SW 5V
8 TU VIDEO
7 GND (SW)
6 TUNER (L)
5 GND (SW)
4 TUNER (R)
3 SAP SIG
2 BILING (SAP)
1 N.C.
TO
TU-130 BOARD
CN002
(See Page 128)
CN012 12P TO TU
12 AFT UP
11 AFT DOWN
10 TU DATA
9 TU CLK
8 TU ENABLE
7 N.C.
6 STEREO
5 TAMUTE
4 FMONO
3 CGHDET
2 GND (SW)
1 N.C.
TO
TU-130 BOARD
CN001
(See Page 128)
CNJ001
CONTROL S
IN
CN010 19P TO PS
1 N.C
2 MTR 12V
3 MTR 12V
4 GND (MTR)
5 GND (MTR)
6 SW 12V
7 SW 9V
8 UNSW 5.8V
9 SW 5V
10 GND (SW)
11 GND (SW)
12 GND (AU)
13 GND (UNSW)
14 N.C
15 +35V
16 AC 3.6V
17 AC 3.6V
18 -35V
19 POWER ON
TO
POWER BLOCK
(See Page 147)
CN009 15P TO MF CN802
1 SIRCS IN
2 BUZZER
3 AFT UP
4 AFT DOWN
5 TU CLK
6 TU ENABLE
7 TU DATA
8 CGHDET
9 COSMO RST
10 COSMO CS
11 CG CS
12 SO BUS (FROM T/T)
13 SI BUS (TO T/T)
14 S CLK
15 N.C
TO
MF-122 BOARD
CN802
(See Page 137)
CN008 15P TO MF CN801
1 VIDEO L2 IN
2 GND (SW)
3 AUDIO L2 IN (L)
4 GND (AU)
5 AUDIO L2 IN (R)
6 SW 5V
7 EDIT (J)
8 RENTAL (SHARPNESS)
9 AC 3.6V
10 AC 3.6V
11 N.C
12 POWER ON
13 -35V
14 GND (UNSW)
15 UNSW 5.8V
TO
MF-122 BOARD
CN801
(See Page 137)
RFU001
AERIAL OUT
TO TU
TU.RF
ANT.OUT
ANT.IN
AERIAL IN
CASE
CASE
VIDEO LINE OUT
VIDEO LINE IN
AUDIO (R) LINE IN
AUDIO (R) LINE OUT
AUDIO (L) LINE IN
AUDIO (L) LINE OUT
( ) : REC MODE
< > : PB MODE
* : CAN NOT BE MEASURED
MA-82 BOARD
TO CA
CN014 10P
1 LINE IN
2 GND (AU)
3 LINE OUT
4 TNS
5 SP
6 NA PB
7 NARECP
8 FULL ERS
9 SW 9V
10 AMUTE
TO HF
CN015 20P
20 AMUTE
19 LEVEL VR VCC
18 LEVEL VR (R)
17 LINE IN (R)
16 GND (AU)
15 LINE OUT (R)
14 H.P OUT (R)
13 H.P VR
12 GND (AU)
11 SW 12V
10 UNSW 5.8V
9 GND (AU)
8 H.P OUT (L)
7 LINE OUT (L)
6 GND (AU)
5 LINE IN (L)
4 LEVEV VR (L)
3 NORM AUIN
2 GND (AU)
1 RF CONV OUT
TO CA-46 BOARD (SLV-585HF/686HF)
CN203 (U/C ONLY)
TO CA-47 BOARD
CN203
(See Page 120)
TO HF-23 BOARD
CN201
(See Page 127)

- **SIGNAL PATH**

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC			➡⟫	➡
PB			⇨⟫	⇨

- **SIGNAL PATH**

	REC	REC/PB	PB
Drum speed servo		➢	
Drum phase servo		➢	
Drum servo (speed and phase)		➢⟫	
Capstan speed servo		➢	
Capstan phase servo		➢⟫	
Capstan servo (speed and phase)			
Ref. signal	➡		

MA-82 (SERVO/SYSTEM CONTROL) PRINTED WIRING BOARD

— Ref. No. MA-82 BOARD: 3000 series —

MA-82 BOARD, COMPLETE
****

< IC >

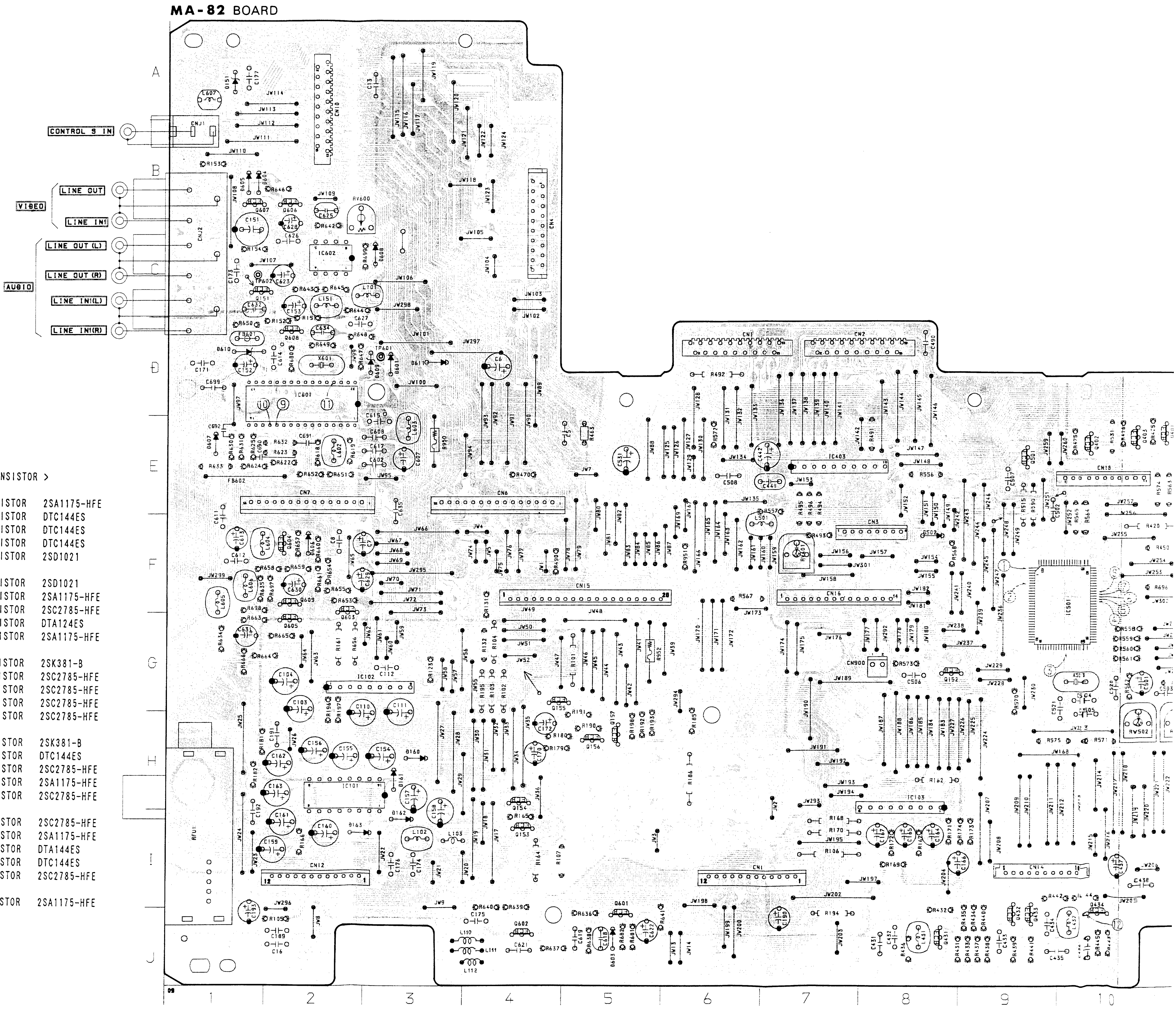
IC101	8-759-804-80	IC	LA7235
IC102	8-759-927-56	IC	BA7021
IC103	8-759-961-38	IC	BA6138
IC401	8-759-008-71	IC	LM324N
IC402	8-759-113-18	IC	uPC4574C
IC403	8-759-983-45	IC	BA6238A
IC501	8-752-819-83	IC	CXP80624
IC601	8-759-636-15	IC	M50555-207Q
IC602	8-759-115-55	IC	uPC1555C

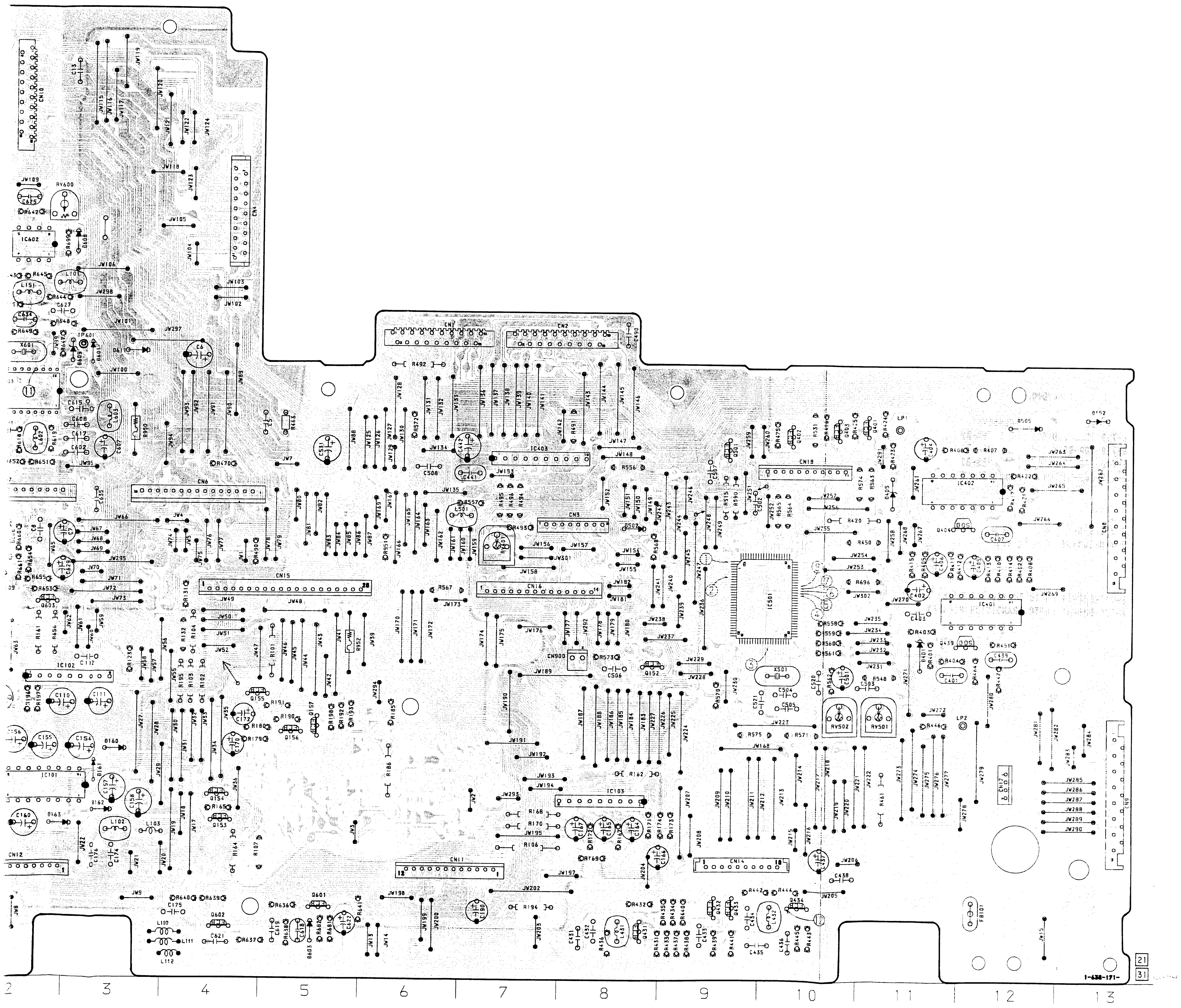
< DIODE >

D151	8-719-109-97	DIODE	RD6.8ES-B2
D152	8-719-109-97	DIODE	RD6.8ES-B2
D160	8-719-911-19	DIODE	1SS119
D161	8-719-911-19	DIODE	1SS119
D162	8-719-911-19	DIODE	1SS119
D163	8-719-911-19	DIODE	1SS119
D401	8-719-101-50	DIODE	RD5.1E-L2
D405	8-719-109-80	DIODE	RD4.7ESB1
D502	8-719-911-19	DIODE	1SS119
D505	8-719-911-19	DIODE	1SS119
D601	8-719-911-19	DIODE	1SS119
D603	8-719-911-19	DIODE	1SS119
D604	8-719-911-19	DIODE	1SS119
D605	8-719-911-19	DIODE	1SS119
D606	8-719-911-19	DIODE	1SS119
D608	8-719-911-19	DIODE	1SS119
D609	8-719-109-97	DIODE	RD6.8ES-B2
D610	8-719-109-97	DIODE	RD6.8ES-B2
D611	8-719-200-82	DIODE	11ES2

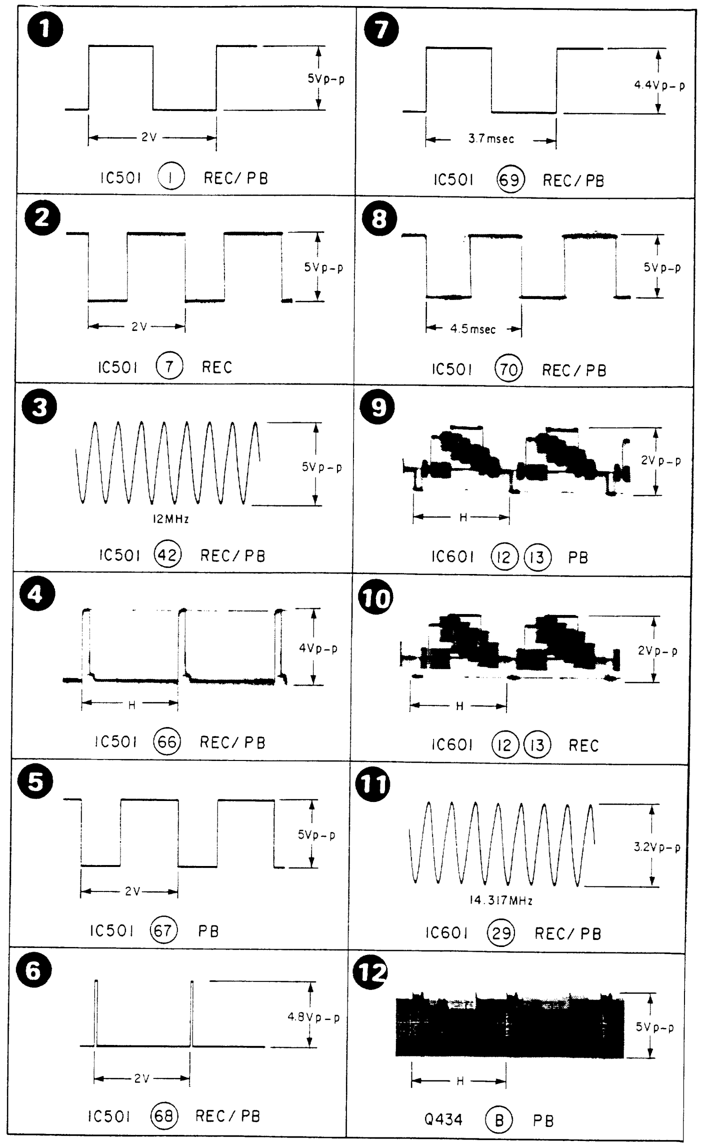
< TRANSISTOR >

Q151	8-729-119-76	TRANSISTOR	2SA1175-HFE
Q152	8-729-900-89	TRANSISTOR	DTC144ES
Q153	8-729-900-89	TRANSISTOR	DTC144ES
Q154	8-729-900-89	TRANSISTOR	DTC144ES
Q155	8-729-102-14	TRANSISTOR	2SD1021
Q156	8-729-102-14	TRANSISTOR	2SD1021
Q157	8-729-119-76	TRANSISTOR	2SA1175-HFE
Q401	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q402	8-729-900-63	TRANSISTOR	DTA124ES
Q403	8-729-119-76	TRANSISTOR	2SA1175-HFE
Q404	8-729-601-47	TRANSISTOR	2SK381-B
Q431	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q432	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q433	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q434	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q439	8-729-601-47	TRANSISTOR	2SK381-B
Q501	8-729-900-89	TRANSISTOR	DTC144ES
Q601	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q602	8-729-119-76	TRANSISTOR	2SA1175-HFE
Q603	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q604	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q605	8-729-119-76	TRANSISTOR	2SA1175-HFE
Q606	8-729-900-65	TRANSISTOR	DTA144ES
Q607	8-729-900-89	TRANSISTOR	DTC144ES
Q608	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q609	8-729-119-76	TRANSISTOR	2SA1175-HFE


MA-82 BOARD
CONTROL S IN
VIDEO
LINE OUT
LINE IN1
AUDIO
LINE OUT (L)
LINE OUT (R)
LINE IN1(L)
LINE IN1(R)
CNJ1
CNJ2
IC101
IC102
IC103
IC403
IC501
IC601
IC602
CN1
CN2
CN3
CN4
CN6
CN7
CN10
CN12
CN15
CN16
CN900
RFU1
RV502
RV600
A
B
C
D
E
F
G
H
I
J
1
2
3
4
5
6
7
8
9
10


CN1
CN2
CN3
CN4
CN6
CN10
CN11
CN12
CN14
CN15
CN16
CN18
CN900
IC101
IC102
IC103
IC401
IC402
IC403
IC501
IC601
IC602
X501
X601
RV501
RV502
RV600
LP1
LP2
TP601
1-638-171-
21
31
2
3
4
5
6
7
8
9
10
11
12
13

MA-82 BOARD



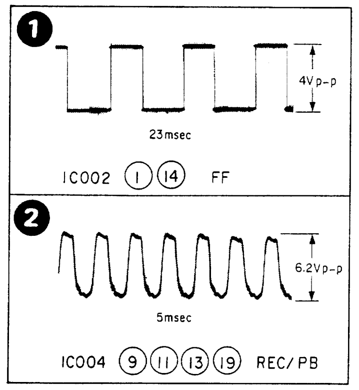
MA-82 BOARD

CN001	D-6	D502	F-8	Q202	H-6
CN002	D-7	D505	E-12	Q203	I-6
CN003	F-8	D601	D-3	Q204	I-5
CN004	C-4	D603	J-5	Q401	E-11
CN006	E-4	D604	B-1	Q402	E-10
CN007	E-2	D605	B-1	Q403	E-10
CN008	F-13	D606	F-2	Q404	F-11
CN009	I-13	D608	C-2	Q431	J-8
CN010	A-2	D609	D-2	Q432	J-9
CN011	I-6	D610	D-1	Q433	J-9
CN012	I-2	D611	D-3	Q434	J-10
CN014	I-9			Q439	J-11
CN015	F-5	IC101	H-2	Q440	F-3
CN016	F-7	IC102	G-2	Q450	F-5
CN017	I-12	IC103	I-8	Q501	E-9
CN018	E-10	IC201	H-6	Q601	J-5
		IC202	H-5	Q602	J-4
D150	G-8	IC401	F-12	Q603	G-2
D151	A-1	IC402	E-12	Q604	F-2
D152	E-13	IC403	E-7	Q605	G-2
D160	H-3	IC501	F-10	Q606	B-2
D161	H-3	IC601	D-2	Q607	B-1
D162	I-3	IC602	C-2	Q608	D-1
D163	I-2			Q609	F-2
D201	I-5	Q151	C-1		
D202	I-5	Q152	G-8	RV401	F-11
D401	G-11	Q153	I-4	RV501	H-11
D405	F-11	Q154	I-4	RV502	H-10
D410	E-5	Q155	H-4	RV600	C-3
D411	F-4	Q156	H-5		
D412	F-5	Q157	H-5		
D413	F-5	Q201	I-4		

MD-49 (MOTOR DRIVE) PRINTED WIRING BOARD

— Ref. No. MD-49 BOARD: 4000 series —

MD-49 BOARD



MD-49 BOARD, COMPLETE
****

< DIODE >

D001	8-719-985-00	DIODE	GL451VS1
D004	8-719-109-93	DIODE	RD6.2ES-B2
D005	8-719-109-93	DIODE	RD6.2ES-B2
D006	8-719-109-93	DIODE	RD6.2ES-B2
D007	8-719-109-93	DIODE	RD6.2ES-B2

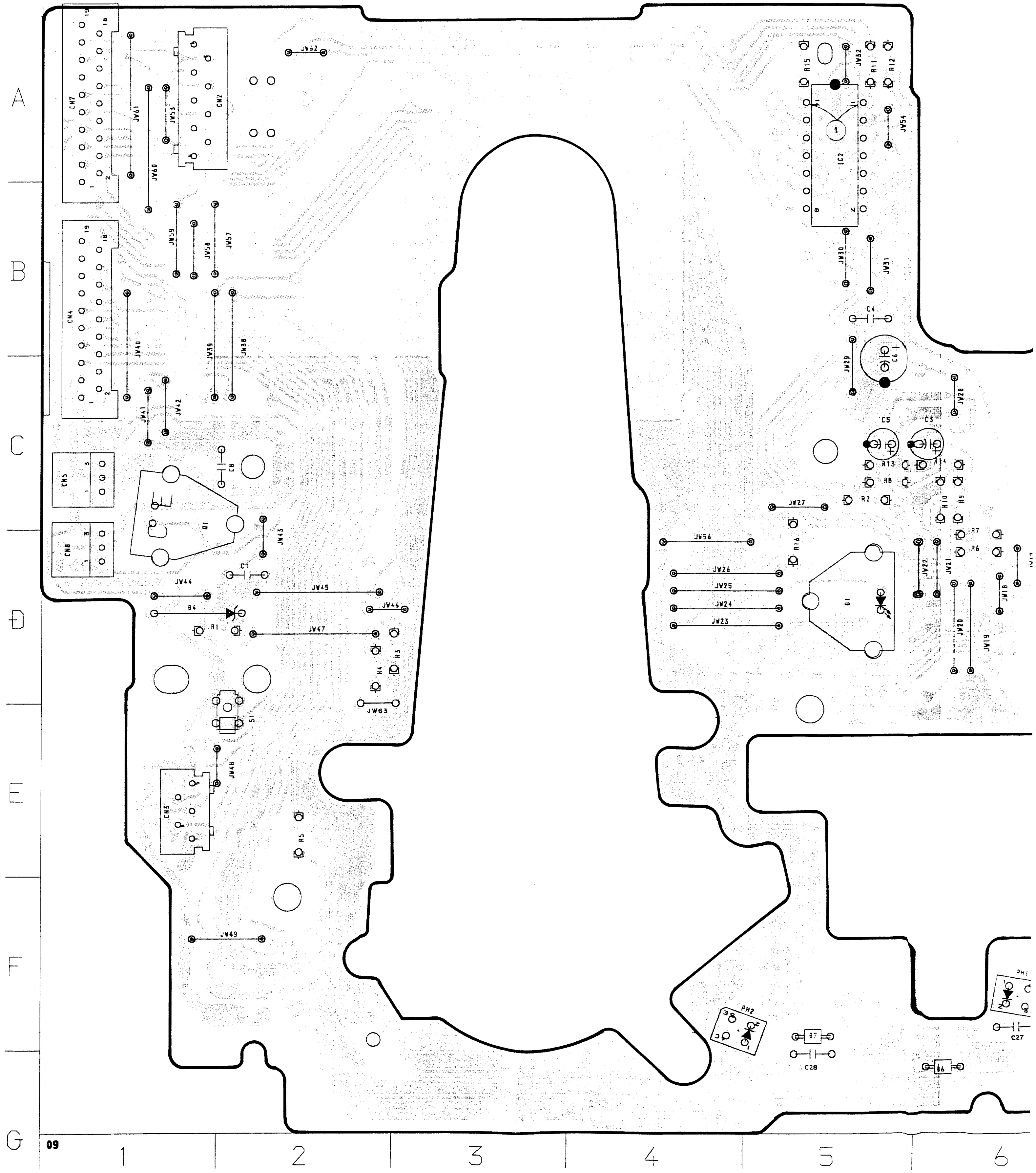
< IC >

IC002	8-759-938-12	IC	BA10324
IC004	8-759-234-03	IC	TA8424F

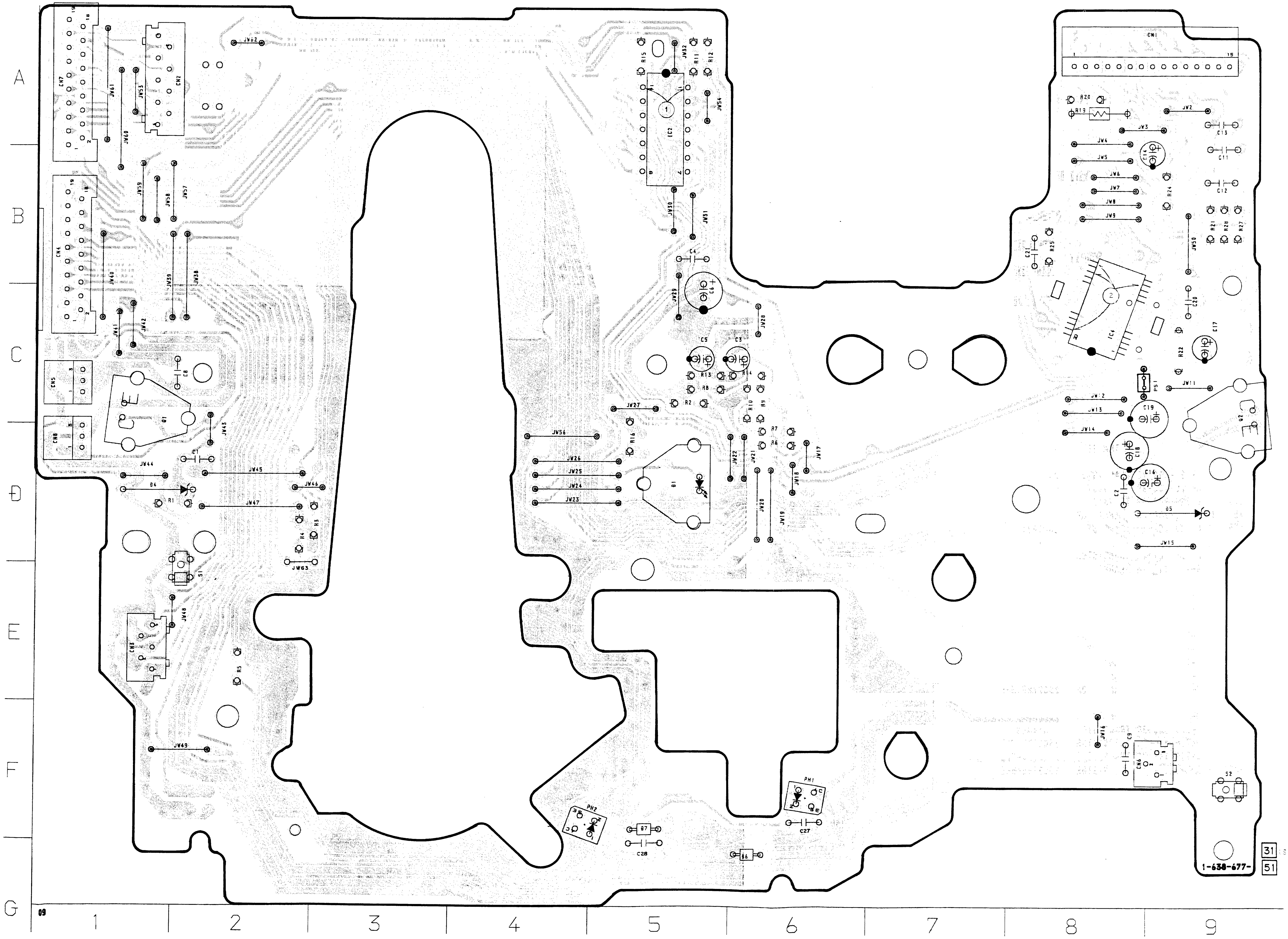
< TRANSISTOR >

Q001	8-729-926-31	PHOTO TRANSISTOR	PT483F1S
Q002	8-729-926-31	PHOTO TRANSISTOR	PT483F1S

MD-49 BOARD


A
B
C
D
E
F
G
09
1
2
3
4
5
6
CN7
CN4
CN5
CN8
CN3
IC2
Q1
B1
PH1
PH2
S1
C1
C3
C4
C5
C6
C8
C27
C28
JW52
JW56
JW44
JW45
JW47
JW63
JW49

MD-49 BOARD


A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
CN1
CN2
CN3
CN4
CN5
CN6
CN7
CN8
IC2
IC4
Q1
Q2
D1
D4
D5
D6
D7
PH1
PH2
S1
S2
PS1
C1
C2
C3
C4
C5
C6
C7
C8
C9
C11
C12
C13
C14
C16
C17
C18
C19
C20
C21
C27
C28
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
R15
R16
R19
R20
R21
R22
R24
R25
R27
R28
JW2
JW3
JW4
JW5
JW6
JW7
JW8
JW9
JW11
JW12
JW13
JW14
JW15
JW16
JW17
JW18
JW19
JW20
JW21
JW22
JW23
JW24
JW25
JW26
JW27
JW28
JW29
JW30
JW31
JW32
JW38
JW39
JW40
JW41
JW42
JW43
JW44
JW45
JW46
JW47
JW48
JW49
JW50
JW51
JW53
JW54
JW56
JW57
JW58
JW59
JW60
JW61
JW62
JW63
1-638-677-
31
51
09

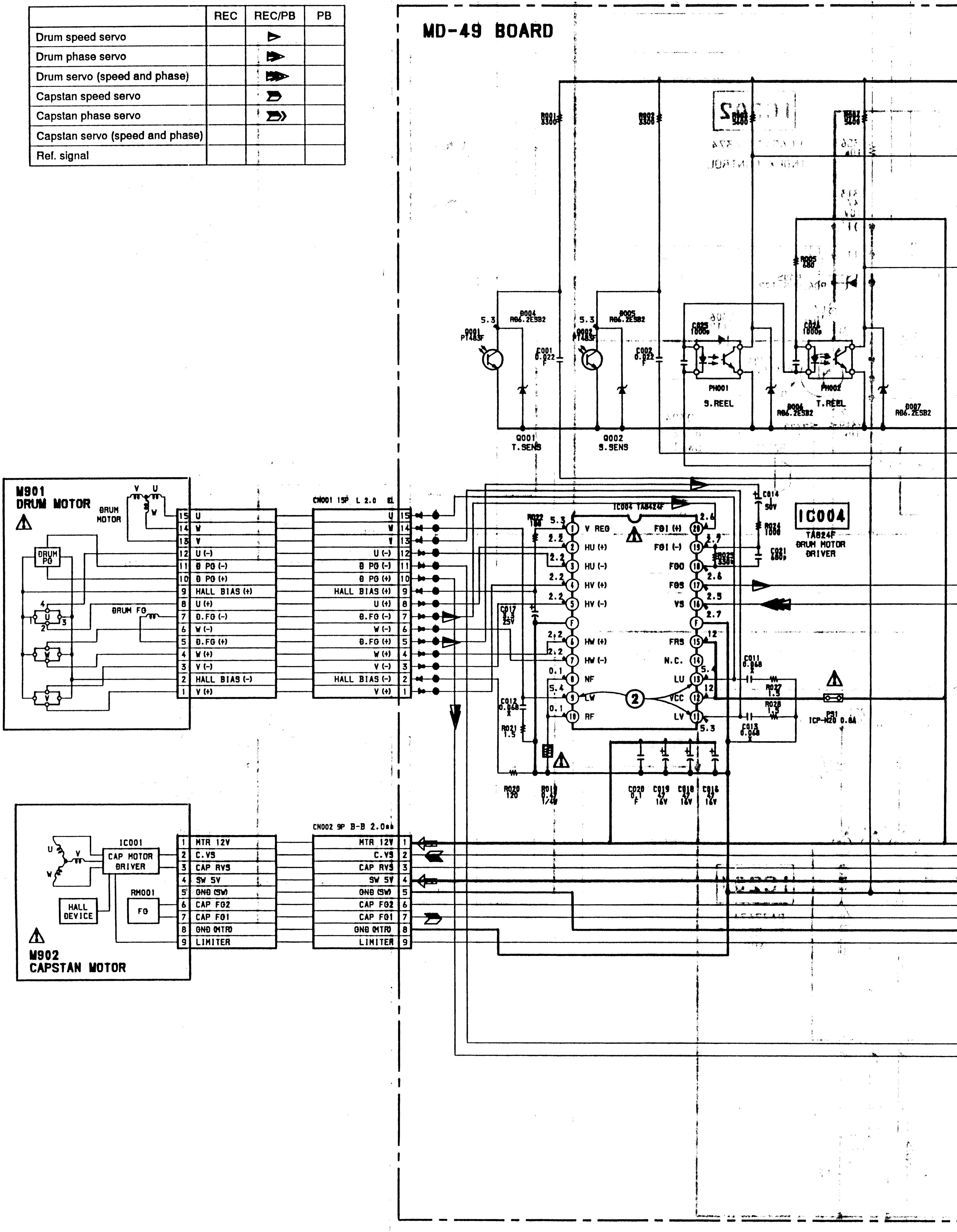
MD-49 BOARD

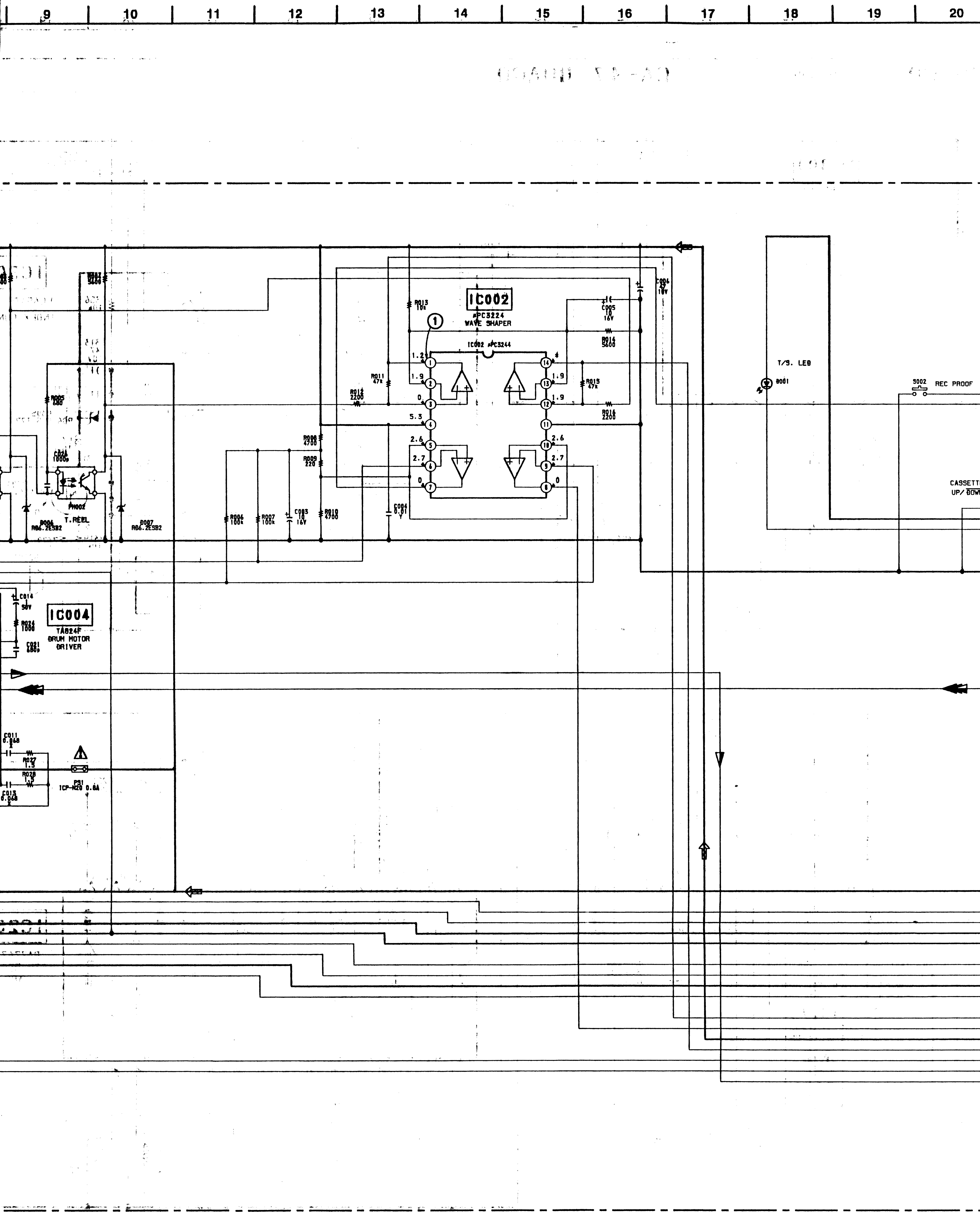
CN001	A-9
CN002	A-1
CN003	E-1
CN004	B-1
CN005	C-1
CN006	F-8
D001	D-5
D004	D-1
D005	D-9
D006	F-6
D007	F-5
IC002	A-5
IC004	C-8
Q001	C-1
Q002	C-9

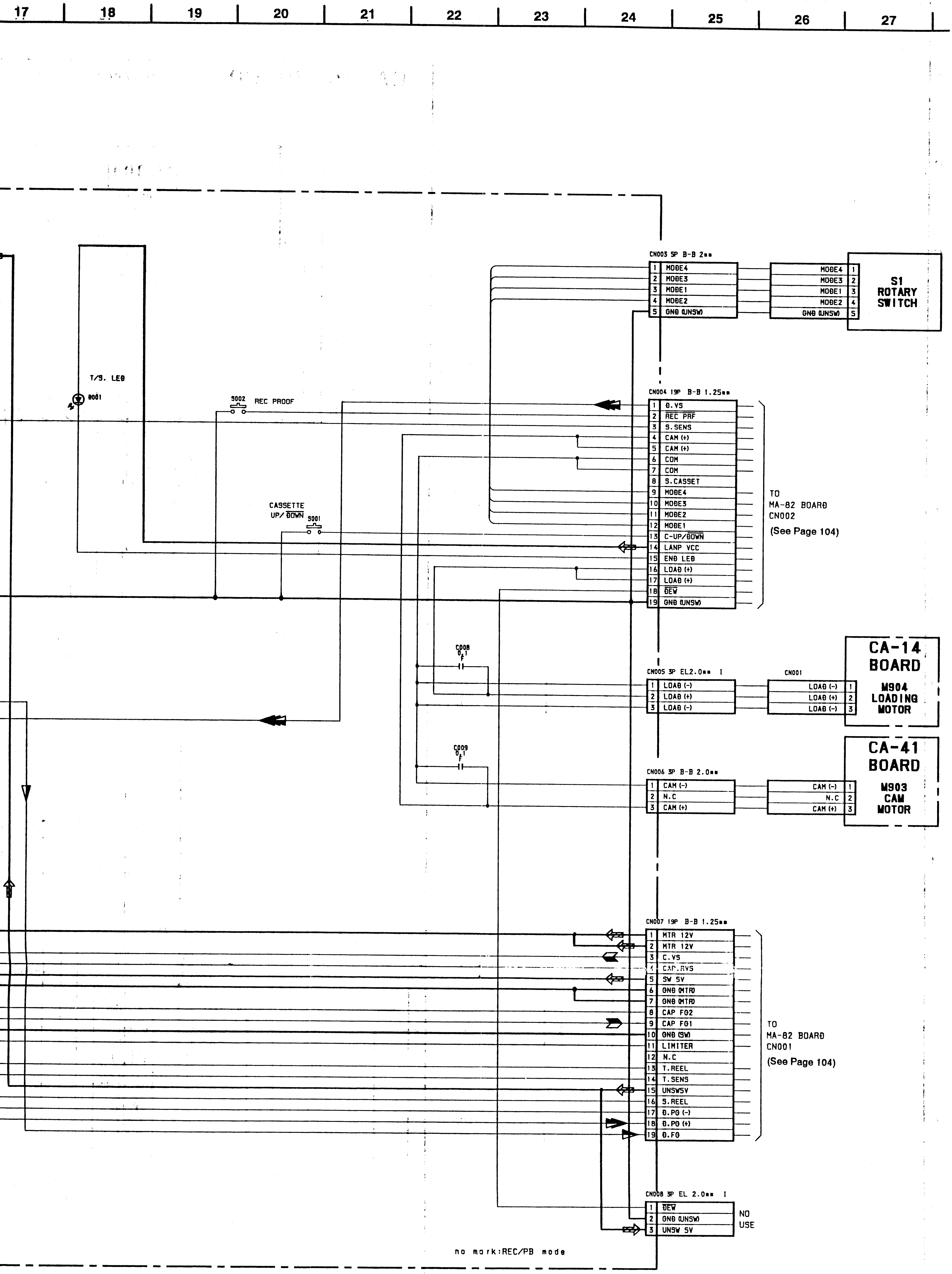
— Ref. No. MD-49 BOARD: 4000 series —

- **SIGNAL PATH**

	REC	REC/PB	PB
Drum speed servo		▷	
Drum phase servo		▶▷	
Drum servo (speed and phase)		▶▶▷	
Capstan speed servo		⊳	
Capstan phase servo		⊳⟩	
Capstan servo (speed and phase)			
Ref. signal			

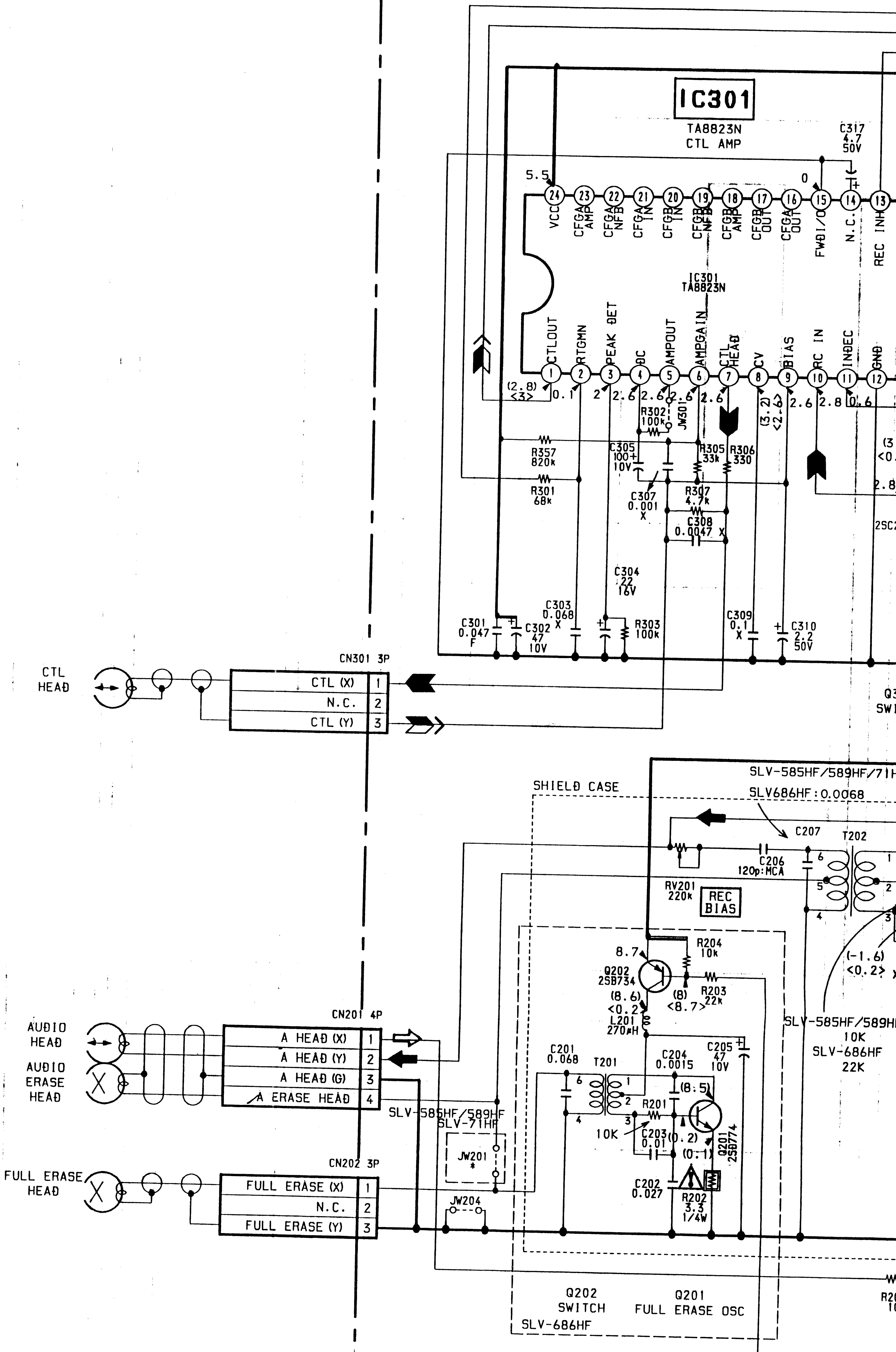

MD-49 BOARD
M901
DRUM MOTOR
DRUM MOTOR
DRUM PG
DRUM FG
U
V
W
15 U
14 W
13 V
12 U (-)
11 B PG (-)
10 B PG (+)
9 HALL BIAS (+)
8 U (+)
7 B.FG (-)
6 W (-)
5 B.FG (+)
4 W (+)
3 V (-)
2 HALL BIAS (-)
1 V (+)
CN001 15P L 2.0
M902
CAPSTAN MOTOR
IC001
CAP MOTOR DRIVER
RM001
FG
HALL DEVICE
1 MTR 12V
2 C.VS
3 CAP RVS
4 SW 5V
5 GND (SW)
6 CAP FG2
7 CAP FG1
8 GND (MTR)
9 LIMITER
CN002 9P B-B 2.0
Q001 PT483F
Q002 PT483F
R004 RB6.2E5B2
R005 RB6.2E5B2
C001 0.022 F
C002 0.022 F
Q001 T.SENS
Q002 S.SENS
R001 3300
R002 3300
R003 5600
PH001 S.REEL
PH002 T.REEL
R006 RB6.2E5B2
R007 RB6.2E5B2
C023 1000p
C024 1000p
R005 680
IC004 TA8424F
IC004
TA8424F
DRUM MOTOR DRIVER
V REG
HU (+)
HU (-)
HV (+)
HV (-)
HW (+)
HW (-)
NF
LW
RF
FG1 (+)
FG1 (-)
FGO
FGS
VS
FRS
N.C.
LU
VCC
LV
5.3
2.2
0.1
5.4
2.6
2.7
2.5
12
R022 100
R024 1000
R025 330k
C014 50V
C021 680p
C017 3.3 25V
C012 0.068 X
R021 1.5
R020 120
R019 0.47 1/4W
C020 0.1 F
C019 47 16V
C018 47 16V
C016 47 16V
C011 0.068 X
C013 0.068
R027 1.5
R028 1.5
PS1 ICP-N20 0.8A
2


9
10
11
12
13
14
15
16
17
18
19
20
IC002
μPC3224
WAVE SHAPER
IC002 μPC3244
①
1.2
1.9
0
5.3
2.6
2.7
0
1.9
1.9
2.6
2.7
0
R013 10k
R011 47k
R012 2200
R008 4700
R009 220
R010 4700
R006 100k
R007 100k
C003 10 16V
C004 0.01 Y
C005 10 16V
C006 47 16V
R014 5600
R015 47k
R016 2200
T/S. LED
D001
S002 REC PROOF
CASSETT
UP/DOWN
R002 5600
R005 680
C026 1000p
PH002
T.REEL
D006 RD6.2ESB2
D007 RD6.2ESB2
C014 50V
R024 1000
C021 680p
IC004
TA824F
DRUM MOTOR
DRIVER
C011 0.068 X
R027 1.5
R028 1.5
C013 0.068
PS1
ICP-N20 0.8A


17
18
19
20
21
22
23
24
25
26
27
CN003 5P B-B 2mm
1 MODE4
2 MODE3
3 MODE1
4 MODE2
5 GND (UNSW)
MODE4 1
MODE3 2
MODE1 3
MODE2 4
GND (UNSW) 5
S1
ROTARY
SWITCH
T/S. LED
D001
S002 REC PROOF
CASSETTE
UP/DOWN S001
CN004 19P B-B 1.25mm
1 D.VS
2 REC PRF
3 S.SENS
4 CAM (+)
5 CAM (+)
6 COM
7 COM
8 S.CASSET
9 MODE4
10 MODE3
11 MODE2
12 MODE1
13 C-UP/DOWN
14 LAMP VCC
15 END LED
16 LOAD (+)
17 LOAD (+)
18 DEW
19 GND (UNSW)
TO
MA-82 BOARD
CN002
(See Page 104)
C008
0.1
F
CN005 3P EL2.0mm I
1 LOAD (-)
2 LOAD (+)
3 LOAD (-)
CN001
LOAD (-) 1
LOAD (+) 2
LOAD (-) 3
CA-14
BOARD
M904
LOADING
MOTOR
C009
0.1
F
CN006 3P B-B 2.0mm
1 CAM (-)
2 N.C
3 CAM (+)
CAM (-) 1
N.C 2
CAM (+) 3
CA-41
BOARD
M903
CAM
MOTOR
CN007 19P B-B 1.25mm
1 MTR 12V
2 MTR 12V
3 C.VS
4 CAP.RVS
5 SW 5V
6 GND (MTR)
7 GND (MTR)
8 CAP FG2
9 CAP FG1
10 GND (SW)
11 LIMITER
12 N.C
13 T.REEL
14 T.SENS
15 UNSW5V
16 S.REEL
17 D.PG (-)
18 D.PG (+)
19 D.FG
TO
MA-82 BOARD
CN001
(See Page 104)
CN008 3P EL 2.0mm I
1 DEW
2 GND (UNSW)
3 UNSW 5V
NO
USE

no mark:REC/PB mode

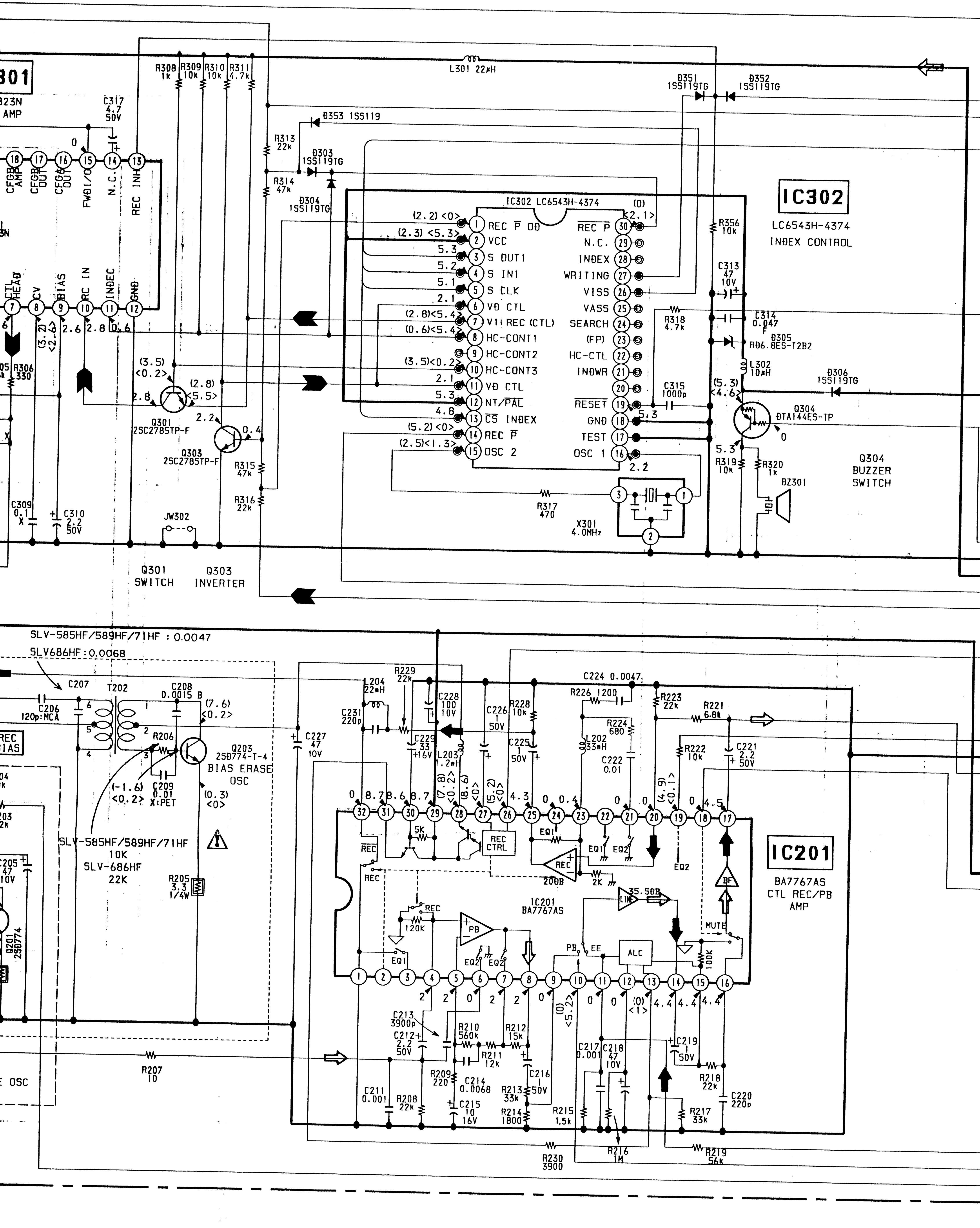
CA-46 BOARD (SLV-585HF/686HF) (U/S ONLY)

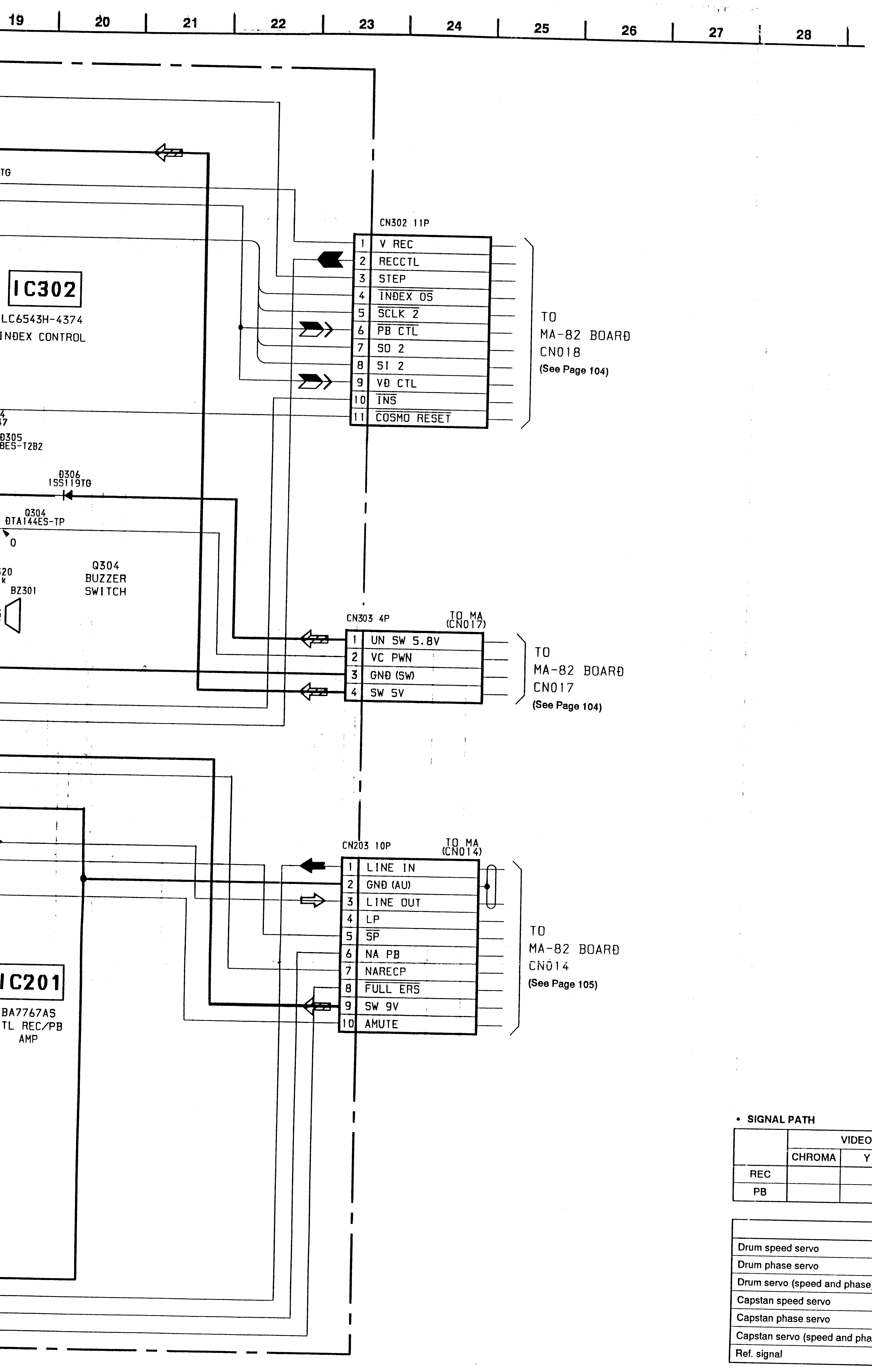

IC301
TA8823N
CTL AMP
C317 4.7 50V
5.5
0
VCC
CFGA AMP
CFGA NFB
CFGA IN
CFGB IN
CFGB NFB
CFGB AMP
CFGB OUT
CFGA OUT
FWD1/O
N.C.
REC INH
IC301 TA8823N
CTLOUT
RTGMN
PEAK DET
DC
AMPOUT
AMPGAIN
CTL HEAD
CV
BIAS
RC IN
INDEC
GND
(2.8) <3>
0.1
2
2.6
2.6
2.6
2.6
(3.2) <2.6>
2.6
2.8
0.6
R302 100k
JW301
R357 820k
R301 68k
C305 100 10V
C307 0.001 X
R305 33k
R306 330
R307 4.7k
C308 0.0047 X
C304 22 16V
C303 0.068 X
C301 0.047 F
C302 47 10V
R303 100k
C309 0.1 X
C310 2.2 50V
2SC2
CTL HEAD
CN301 3P
CTL (X)
N.C.
CTL (Y)
1
2
3
SHIELD CASE
SLV-585HF/589HF/71H
SLV686HF:0.0068
C207
T202
C206 120p:MCA
RV201 220k
REC BIAS
8.7
R204 10k
Q202 2SB734
(8.6) <0.2>
L201 270μH
(8) <8.7>
R203 22k
(-1.6) <0.2>
SLV-585HF/589H
10K
SLV-686HF
22K
AUDIO HEAD
AUDIO ERASE HEAD
CN201 4P
A HEAD (X)
A HEAD (Y)
A HEAD (G)
A ERASE HEAD
4
C201 0.068
T201
C204 0.0015
C205 47 10V
(8.5)
R201
10K
C203 0.01
(0.2)
(0.1)
Q201 2SD774
C202 0.027
R202 3.3 1/4W
SLV-585HF/589HF
SLV-71HF
JW201 *
CN202 3P
FULL ERASE HEAD
FULL ERASE (X)
N.C.
FULL ERASE (Y)
JW204
Q202 SWITCH
SLV-686HF
Q201 FULL ERASE OSC
09

no mark:REC/PB mode
( ):REC mode
< >:PB mode

AUDIO AUDIO

F/686HF) (U/S ONLY) CA-47 BOARD


301
323N
AMP
R308 1k
R309 10k
R310 10k
R311 4.7k
C317 4.7 50V
L301 22μH
D351 1SS119TG
D352 1SS119TG
D353 1SS119
R313 22k
D303 1SS119TG
R314 47k
D304 1SS119TG
CFGB AMP
CFGB OUT
CFGA OUT
FWD1/O
N.C.
REC INH
CTL HEAD
CV
BIAS
RC IN
INDEC
GND
IC302 LC6543H-4374
REC P OD
VCC
S OUT1
S IN1
S CLK
VD CTL
V1: REC (CTL)
HC-CONT1
HC-CONT2
HC-CONT3
VD CTL
NT/PAL
CS INDEX
REC P
OSC 2
REC P
N.C.
INDEX
WRITING
VISS
VASS
SEARCH
(FP)
HC-CTL
INDWR
RESET
GND
TEST
OSC 1
IC302
LC6543H-4374
INDEX CONTROL
R356 10k
C313 47 10V
R318 4.7k
C314 0.047 F
D305 RD6.8ES-T2B2
L302 10μH
D306 1SS119TG
C315 1000p
Q304 DTA144ES-TP
R319 10k
R320 1k
BZ301
Q304 BUZZER SWITCH
R317 470
X301 4.0MHz
Q301 2SC2785TP-F
Q303 2SC2785TP-F
R315 47k
R316 22k
JW302
C309 0.1
C310 2.2 50V
R305
R306 330
Q301 SWITCH
Q303 INVERTER
SLV-585HF/589HF/71HF : 0.0047
SLV686HF : 0.0068
C207
T202
C206 120p:MCA
C208 0.0015 B
R206
Q203 2SD774-T-4 BIAS ERASE OSC
C209 0.01 X:PET
REC BIAS
SLV-585HF/589HF/71HF 10K
SLV-686HF 22K
R205 3.3 1/4W
C205 47 10V
Q201 2SD774
R207 10
E OSC
C227 47 10V
R229 22k
L204 22μH
C231 220p
C228 100 10V
C229 33 6.3V
L203 1.2mH
C226 1 50V
R228 10k
C225 1 50V
C224 0.0047
R226 1200
R224 680
L202 33mH
C222 0.01
R223 22k
R221 6.8k
R222 10k
C221 2.2 50V
REC CTRL
REC
20dB
EQ1
EQ2
2k
35.5dB
LIM
BF
MUTE
ALC
PB
EE
100k
120k
IC201 BA7767AS
IC201
BA7767AS
CTL REC/PB AMP
C213 3900p
C212 2.2 50V
R210 560k
R212 15k
R211 12k
C216 1 50V
R209 220
C214 0.0068
R213 33k
C215 10 16V
R214 1800
R215 1.5k
C211 0.001
R208 22k
C217 0.001
C218 47 10V
R216 1M
C219 1 50V
R218 22k
C220 220p
R217 33k
R219 56k
R230 3900


19
20
21
22
23
24
25
26
27
28
TG
IC302
LC6543H-4374
INDEX CONTROL
CN302 11P
1 V REC
2 RECCTL
3 STEP
4 INDEX OS
5 SCLK 2
6 PB CTL
7 SO 2
8 SI 2
9 VD CTL
10 INS
11 COSMO RESET
TO
MA-82 BOARD
CN018
(See Page 104)
D305
BES-T2B2
D306
1SS119TG
Q304
DTA144ES-TP
0
Q304
BUZZER
SWITCH
BZ301
CN303 4P
TO MA
(CN017)
1 UN SW 5.8V
2 VC PWN
3 GND (SW)
4 SW 5V
TO
MA-82 BOARD
CN017
(See Page 104)
CN203 10P
TO MA
(CN014)
1 LINE IN
2 GND (AU)
3 LINE OUT
4 LP
5 SP
6 NA PB
7 NARECP
8 FULL ERS
9 SW 9V
10 AMUTE
TO
MA-82 BOARD
CN014
(See Page 105)
IC201
BA7767AS
TL REC/PB
AMP

- **SIGNAL PATH**

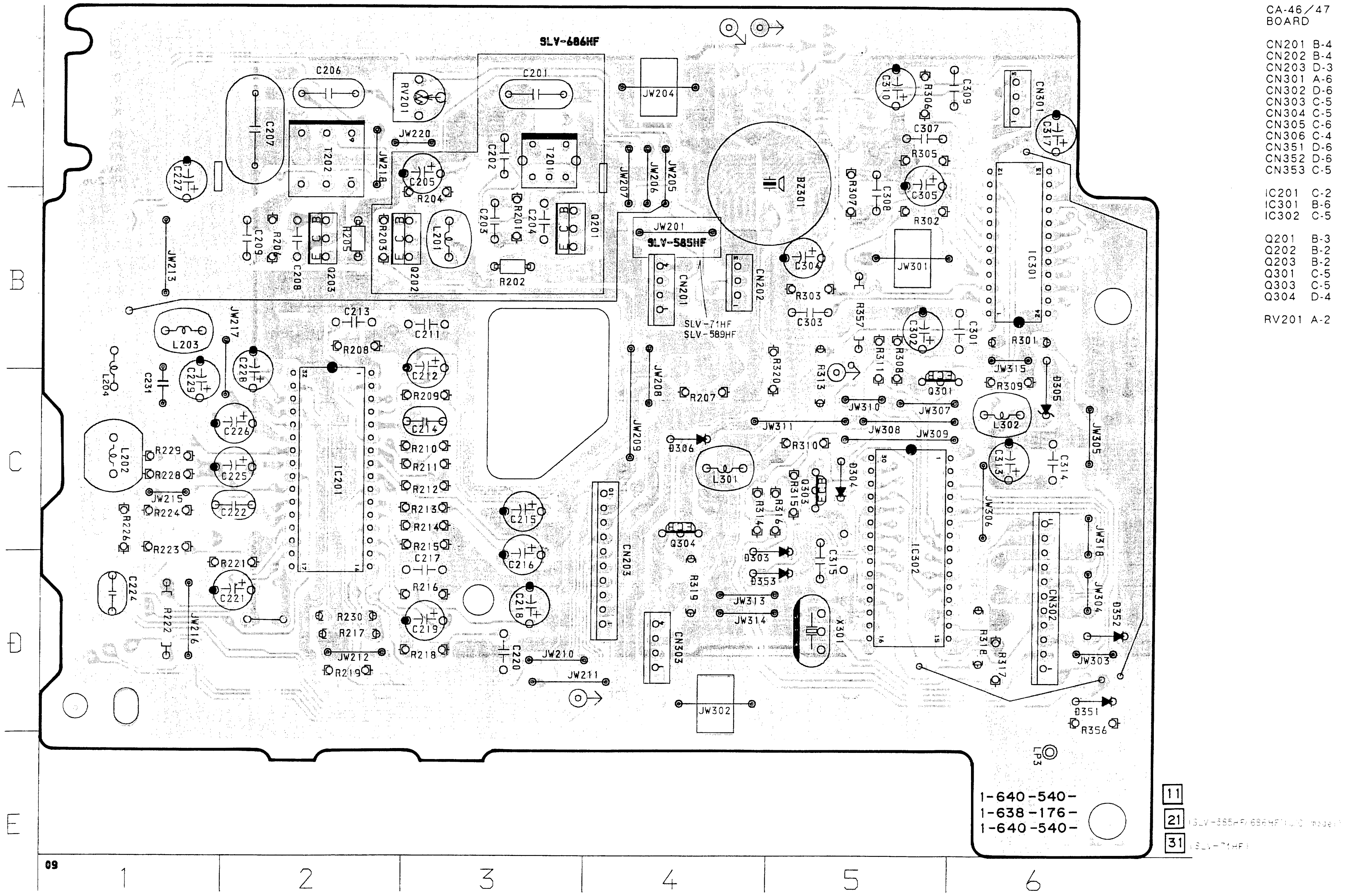
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				➡
PB				⇨

	REC	REC/PB	PB
Drum speed servo			
Drum phase servo			
Drum servo (speed and phase)			
Capstan speed servo			
Capstan phase servo		⇨	
Capstan servo (speed and phase)			
Ref. signal	➡		

CA-46/47 (CTL/AUDIO HEAD AMP) PRINTED WIRING BOARD

— Ref. No. CA-46/47 BOARD: 4000 series —

CA-46 BOARD (SLV-585HF/686HF)(U/C ONLY)
CA-47 BOARD


SLV-686HF
SLV-585HF
SLV-71HF
SLV-589HF
A
B
C
D
E
1
2
3
4
5
6
09
C206
C201
RV201
JW204
T202
T201
C207
C227
JW220
JW218
C205
R204
C202
C203
C204
R201
L201
Q201
JW207
JW206
JW205
JW201
CN201
CN202
BZ301
R307
C310
R306
C309
C307
R305
C305
C308
R302
CN301
C317
IC301
JW301
C304
R303
C303
R357
C302
R311
R308
C301
R301
JW213
C209
R206
R205
R203
Q203
Q202
C208
R202
JW217
C213
C211
R208
L203
C212
R209
C214
R210
R211
R212
R213
R214
R215
C217
R216
C215
C216
C218
C219
R218
IC201
C228
C229
C231
L204
C226
C225
C222
C221
C224
L202
R229
R228
JW215
R224
R226
R223
R221
R222
JW216
R230
R217
JW212
R219
JW208
JW209
R207
R320
R313
Q301
JW315
R309
D305
JW310
JW307
JW311
JW308
JW309
L302
R310
D306
L301
D304
R315
Q303
R314
R316
C313
C314
JW305
JW306
IC302
CN203
Q304
D303
D353
C315
R319
JW313
JW314
X301
CN303
JW318
CN302
JW304
D352
R318
R317
JW303
C220
JW210
JW211
JW302
D351
R356
LP3
1-640-540-
1-638-176-
1-640-540-
11
21 (SLV-585HF/686HF)(U/C model)
31 (SLV-71HF)

CA-46/47 BOARD	
CN201	B-4
CN202	B-4
CN203	D-3
CN301	A-6
CN302	D-6
CN303	C-5
CN304	C-5
CN305	C-6
CN306	C-4
CN351	D-6
CN352	D-6
CN353	C-5
IC201	C-2
IC301	B-6
IC302	C-5
Q201	B-3
Q202	B-2
Q203	B-2
Q301	C-5
Q303	C-5
Q304	D-4
RV201	A-2

CA-46/47 BOARD, COMPLETE
****

< DIODE >

D303	8-719-911-19	DIODE	1SS119
D304	8-719-911-19	DIODE	1SS119
D305	8-719-109-97	DIODE	RD6.8ES-B2
D306	8-719-911-19	DIODE	1SS119
D351	8-719-911-19	DIODE	1SS119
D352	8-719-911-19	DIODE	1SS119
D353	8-719-911-19	DIODE	1SS119

< IC >

IC201	8-759-513-18	IC	BA7767AS
IC301	8-759-246-14	IC	TA8823N
IC302	8-759-822-65	IC	LC6543H-4374

< TRANSISTOR >

Q201	8-729-140-96	TRANSISTOR	2SD774-34 (SLV-686HF)
Q202	8-729-113-34	TRANSISTOR	2SB733-5 (SLV-686HF)
Q203	8-729-140-96	TRANSISTOR	2SD774-34
Q301	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q303	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q304	8-729-900-65	TRANSISTOR	DTA144ES

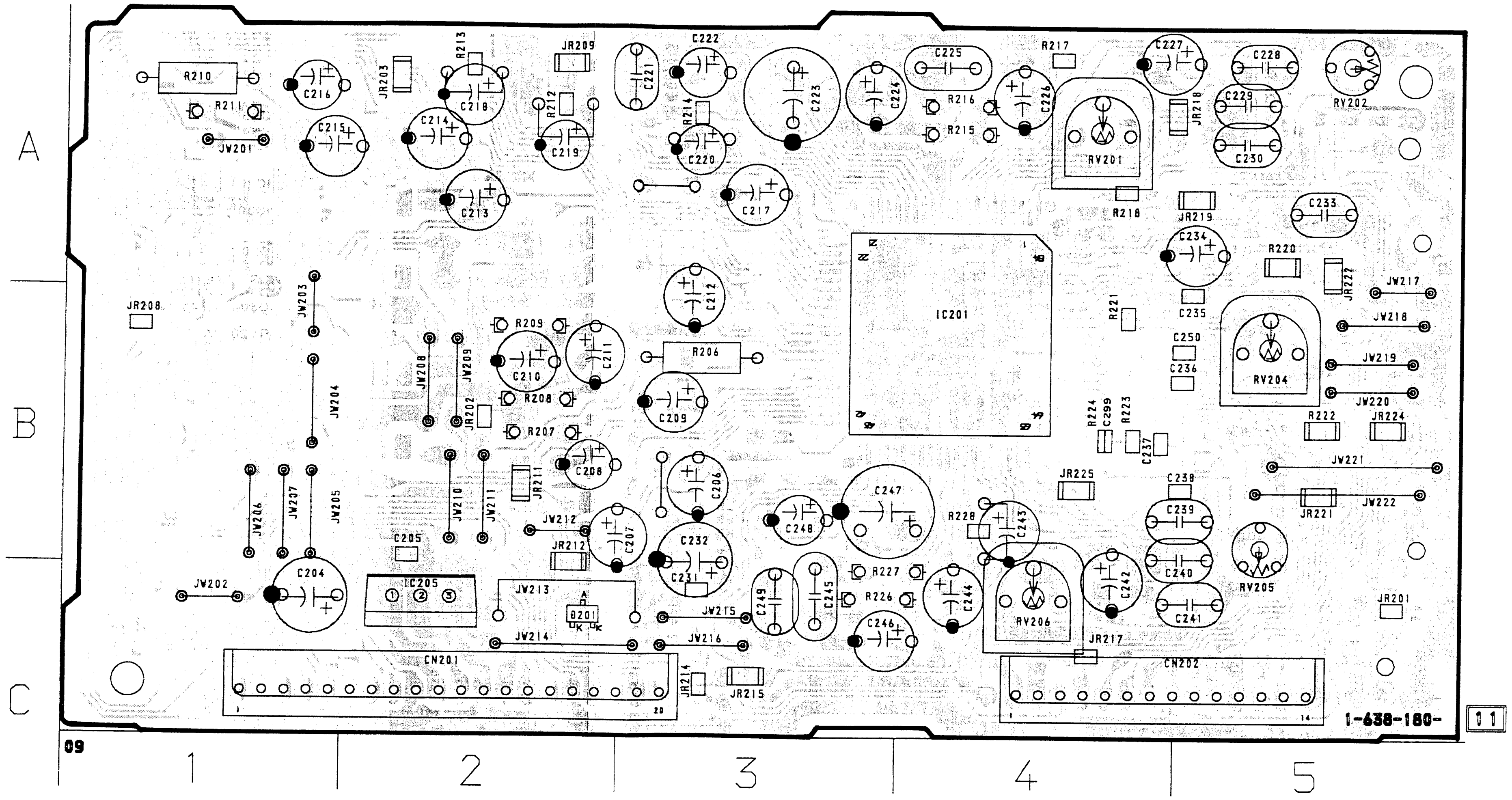
HF-23 (AUDIO PROCESS) PRINTED WIRING BOARD

— Ref. No. HF-23 BOARD: 5000 series —

HF-23 BOARD, COMPLETE
****

		< DIODE >
D201	8-719-104-34	DIODE 1S2836
		< IC >
IC201	8-759-421-08	IC AN3937FBP
IC205	8-759-518-66	IC BA178M05T
IC205	8-759-938-15	IC BA178M05

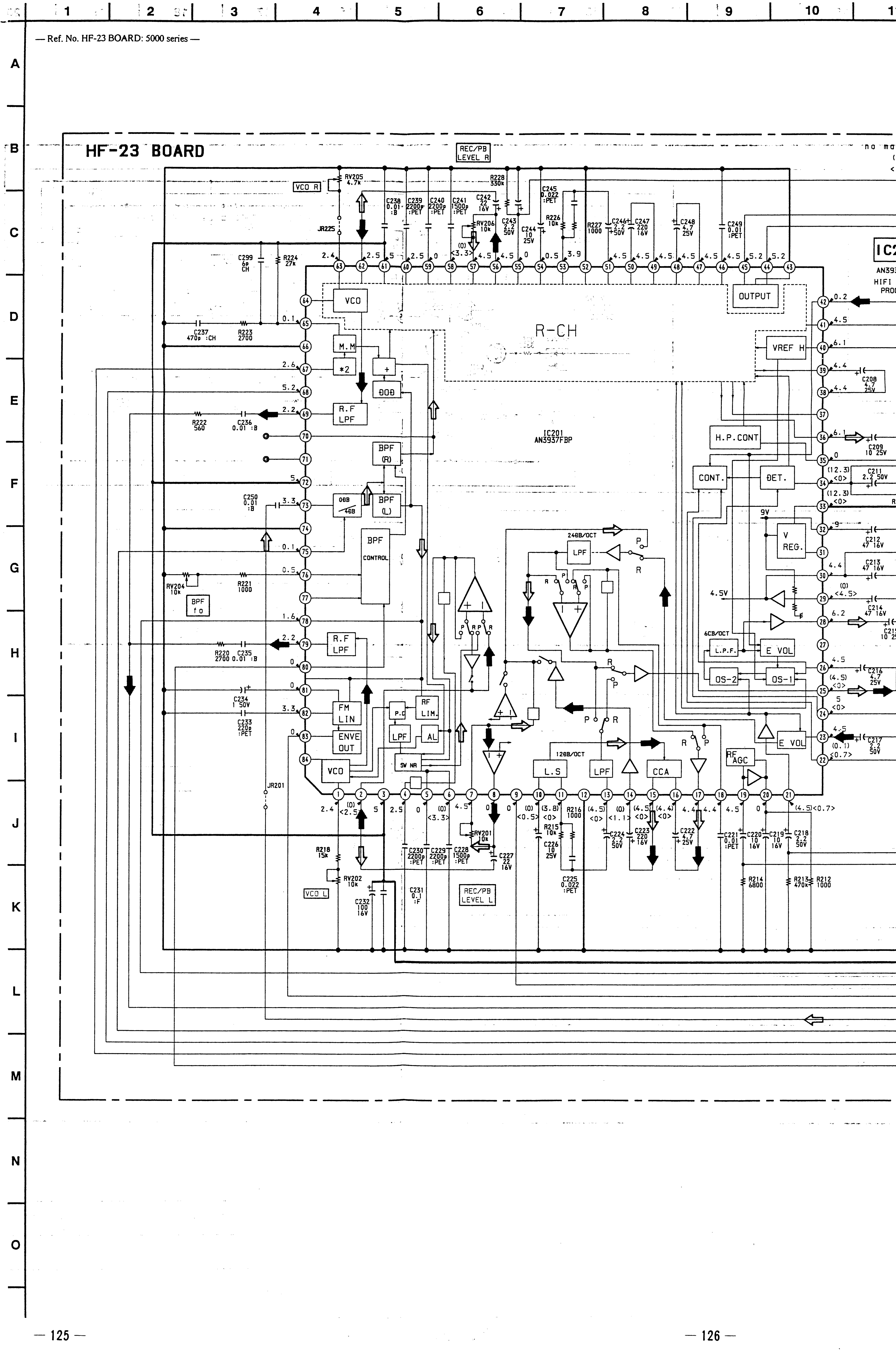
HF-23 BOARD

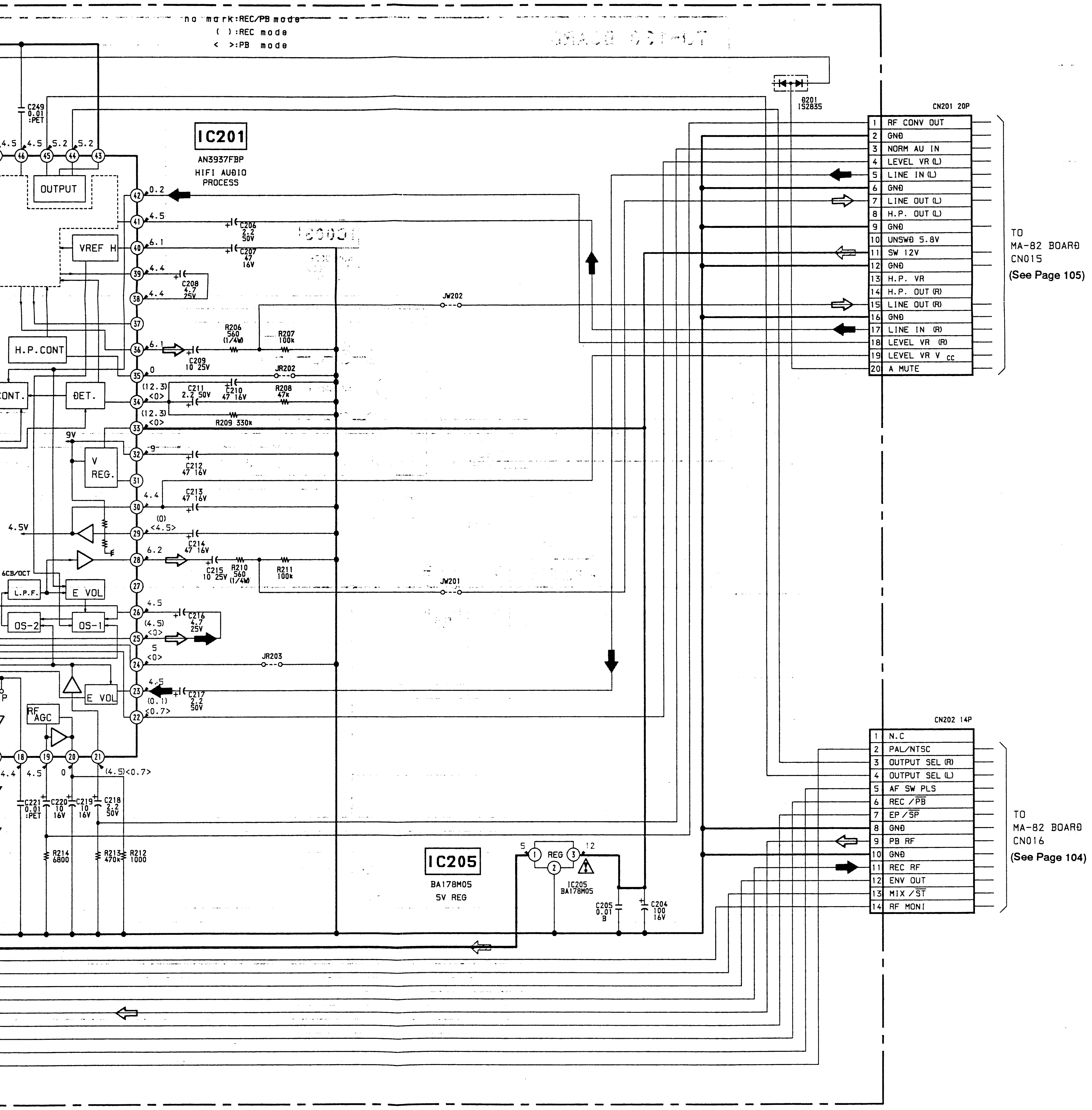

A
B
C
1
2
3
4
5
R210
R211
JW201
C216
C215
JR203
R213
C218
C214
C213
JR209
R212
C219
C221
C222
R214
C220
C217
C223
C224
C225
R216
R215
C226
R217
C227
RV201
R218
JR218
C228
C229
C230
RV202
JR219
C233
C234
R220
JR222
JW217
JW218
JR208
JW203
JW208
JW209
JR202
R209
C210
C211
R208
R207
R206
C212
C209
IC201
R221
C235
C250
C236
RV204
JW219
JW220
R224
C299
R223
C237
R222
JR224
JW204
JW206
JW207
JW205
JW210
JW211
JR211
C208
C206
C207
JW212
JR212
C205
C204
JW202
IC205
JW213
D201
JW214
C232
C231
JW215
JW216
C248
C247
R228
C243
C249
C245
R227
R226
C246
C244
RV206
C242
JR225
C238
C239
C240
C241
JW221
JW222
JR221
RV205
JR201
JR217
CN201
CN202
JR214
JR215
1
20
14
1-638-180-
11
09

HF-23 BOARD	
CN201	C-2
CN202	C-4
D201	C-2
IC201	B-4
IC205	C-2
RV201	A-4
RV202	A-5
RV204	B-5
RV205	C-5
RV206	C-4

HF-23 (AUDIO PROCESS) SCHEMATIC DIAGRAM

— Ref. No. HF-23 BOARD: 5000 series —


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
HF-23 BOARD
REC/PB LEVEL R
REC/PB LEVEL L
VCO R
VCO L
BPF fo
RV205 4.7k
RV206 10k
RV204 10k
RV201 10k
RV202 10k
R228 330k
R226 10k
R227 1000
R224 27k
R223 2700
R222 560
R221 1000
R220 2700
R218 15k
R216 1000
R215 10k
R214 6800
R213 470k
R212 1000
JR225
JR201
C237 470p :CH
C299 6p CH
C236 0.01 :B
C235 0.01 :B
C250 0.01 :B
C234 1 50V
C233 220p :PET
C238 0.01 :B
C239 2200p :PET
C240 2200p :PET
C241 1500p :PET
C242 22 16V
C243 2.2 50V
C244 10 25V
C245 0.022 :PET
C246 2.2 50V
C247 220 16V
C248 4.7 25V
C249 0.01 :PET
C230 2200p :PET
C229 2200p :PET
C228 1500p :PET
C227 22 16V
C231 0.1 :F
C232 100 16V
C226 10 25V
C225 0.022 :PET
C224 2.2 50V
C223 220 16V
C222 4.7 25V
C221 0.01 :PET
C220 10 16V
C219 10 16V
C218 2.2 50V
C208 4.7 25V
C209 10 25V
C211 2.2 50V
C212 47 16V
C213 47 16V
C214 47 16V
C216 4.7 25V
C217 2.2 50V
IC201 AN3937FBP
R-CH
VCO
M.M
*2
+
ØØØ
R.F LPF
BPF (R)
BPF (L)
0dB / -6dB
BPF CONTROL
FM LIN
ENVE OUT
P.C
RF LIM.
LPF
AL
SW NR
OUTPUT
VREF H
H.P.CONT
CONT.
DET.
9V
V REG.
4.5V
6CB/OCT
L.P.F.
E VOL
OS-2
OS-1
RF AGC
24dB/OCT
12dB/OCT
L.S
CCA
P
R
IC2
AN39
HIFI
PRO

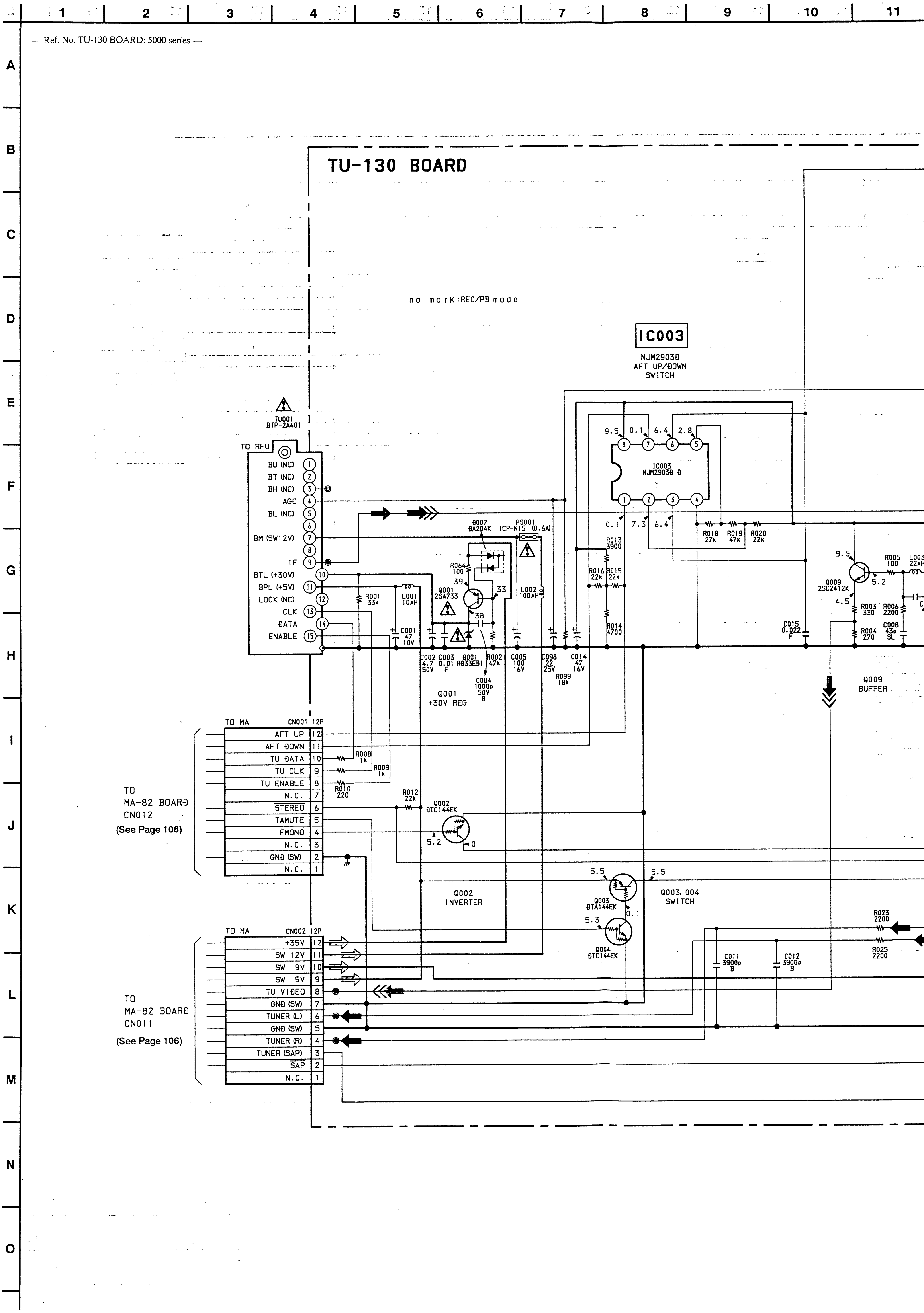

no mark:REC/PB mode
( ):REC mode
< >:PB mode
IC201
AN3937FBP
HIFI AUDIO PROCESS
OUTPUT
VREF H
H.P.CONT
DET.
V REG.
L.P.F.
E VOL
OS-2
OS-1
RF AGC
C249 0.01 :PET
C206 2.2 50V
C207 47 16V
C208 4.7 25V
R206 560 (1/4W)
R207 100k
C209 10 25V
JR202
C211 2.2 50V
C210 47 16V
R208 47k
R209 330k
C212 47 16V
C213 47 16V
C214 47 16V
C215 10 25V
R210 560 (1/4W)
R211 100k
C216 4.7 25V
JR203
C217 2.2 50V
JW202
JW201
C221 0.01 :PET
C220 10 16V
C219 10 16V
C218 2.2 50V
R214 6800
R213 470k
R212 1000
4.5V
9V
6CB/OCT
IC205
BA178M05
5V REG
REG
IC205 BA178M05
C205 0.01 B
C204 100 16V
D201 1S2835
CN201 20P
1 RF CONV OUT
2 GND
3 NORM AU IN
4 LEVEL VR (L)
5 LINE IN (L)
6 GND
7 LINE OUT (L)
8 H.P. OUT (L)
9 GND
10 UNSWD 5.8V
11 SW 12V
12 GND
13 H.P. VR
14 H.P. OUT (R)
15 LINE OUT (R)
16 GND
17 LINE IN (R)
18 LEVEL VR (R)
19 LEVEL VR VCC
20 A MUTE
TO MA-82 BOARD CN015
(See Page 105)
CN202 14P
1 N.C
2 PAL/NTSC
3 OUTPUT SEL (R)
4 OUTPUT SEL (L)
5 AF SW PLS
6 REC /PB
7 EP /SP
8 GND
9 PB RF
10 GND
11 REC RF
12 ENV OUT
13 MIX /ST
14 RF MONI
TO MA-82 BOARD CN016
(See Page 104)

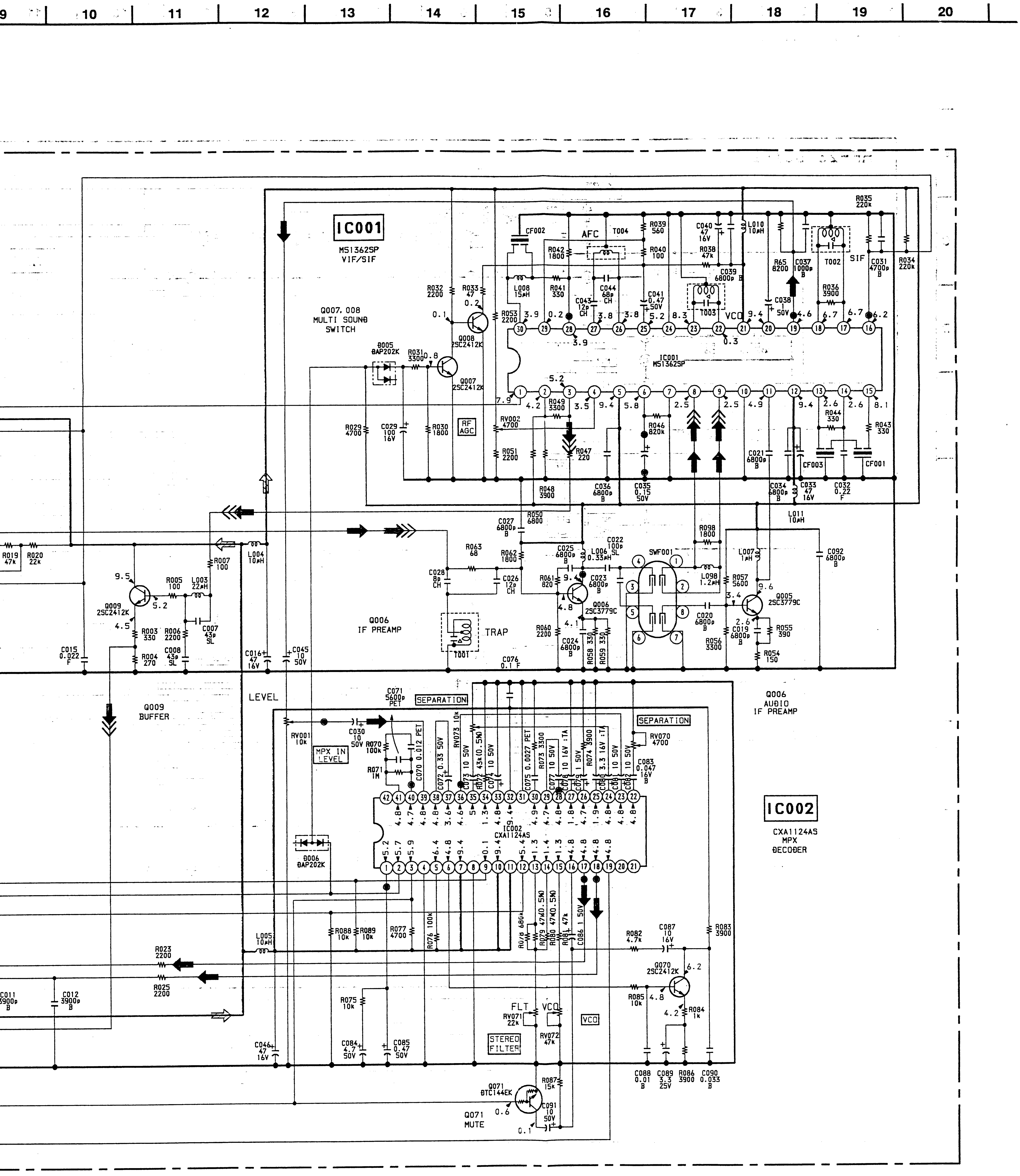
- **SIGNAL PATH**

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				➡
PB				⇨

TU-130 (TUNER) SCHEMATIC DIAGRAM

— Ref. No. TU-130 BOARD: 5000 series —


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
TU-130 BOARD
no mark:REC/PB mode
IC003
NJM2903D
AFT UP/DOWN
SWITCH
IC003
NJM2903D D
9.5
0.1
6.4
2.8
0.1
7.3
6.4
TU001
BTP-2A401
TO RFU
BU (NC) 1
BT (NC) 2
BH (NC) 3
AGC 4
BL (NC) 5
6
BM (SW12V) 7
8
IF 9
BTL (+30V) 10
BPL (+5V) 11
LOCK (NC) 12
CLK 13
DATA 14
ENABLE 15
D007
DA204K
PS001
ICP-N15 (0.6A)
R064
100
39
38
33
Q001
2SA733
R001
33k
L001
10μH
L002
100μH
C001
47
10V
C002
4.7
50V
C003
0.01
F
D001
RD33EB1
R002
47k
C004
1000p
50V
B
C005
100
16V
C098
22
25V
C014
47
16V
R099
18k
Q001
+30V REG
R013
3900
R016
22k
R015
22k
R014
4700
R018
27k
R019
47k
R020
22k
9.5
R005
100
L003
22μH
Q009
2SC2412K
5.2
4.5
R003
330
R006
2200
C008
43p
SL
R004
270
C015
0.022
F
Q009
BUFFER
TO MA
CN001 12P
AFT UP 12
AFT DOWN 11
TU DATA 10
TU CLK 9
TU ENABLE 8
N.C. 7
STEREO 6
TAMUTE 5
FMONO 4
N.C. 3
GND (SW) 2
N.C. 1
TO
MA-82 BOARD
CN012
(See Page 106)
R008
1k
R009
1k
R010
220
R012
22k
Q002
DTC144EK
5.2
0
Q002
INVERTER
5.5
5.5
Q003
DTA144EK
0.1
5.3
Q004
DTC144EK
Q003, 004
SWITCH
R023
2200
R025
2200
C011
3900p
B
C012
3900p
B
TO MA
CN002 12P
+35V 12
SW 12V 11
SW 9V 10
SW 5V 9
TU VIDEO 8
GND (SW) 7
TUNER (L) 6
GND (SW) 5
TUNER (R) 4
TUNER (SAP) 3
SAP 2
N.C. 1
TO
MA-82 BOARD
CN011
(See Page 106)

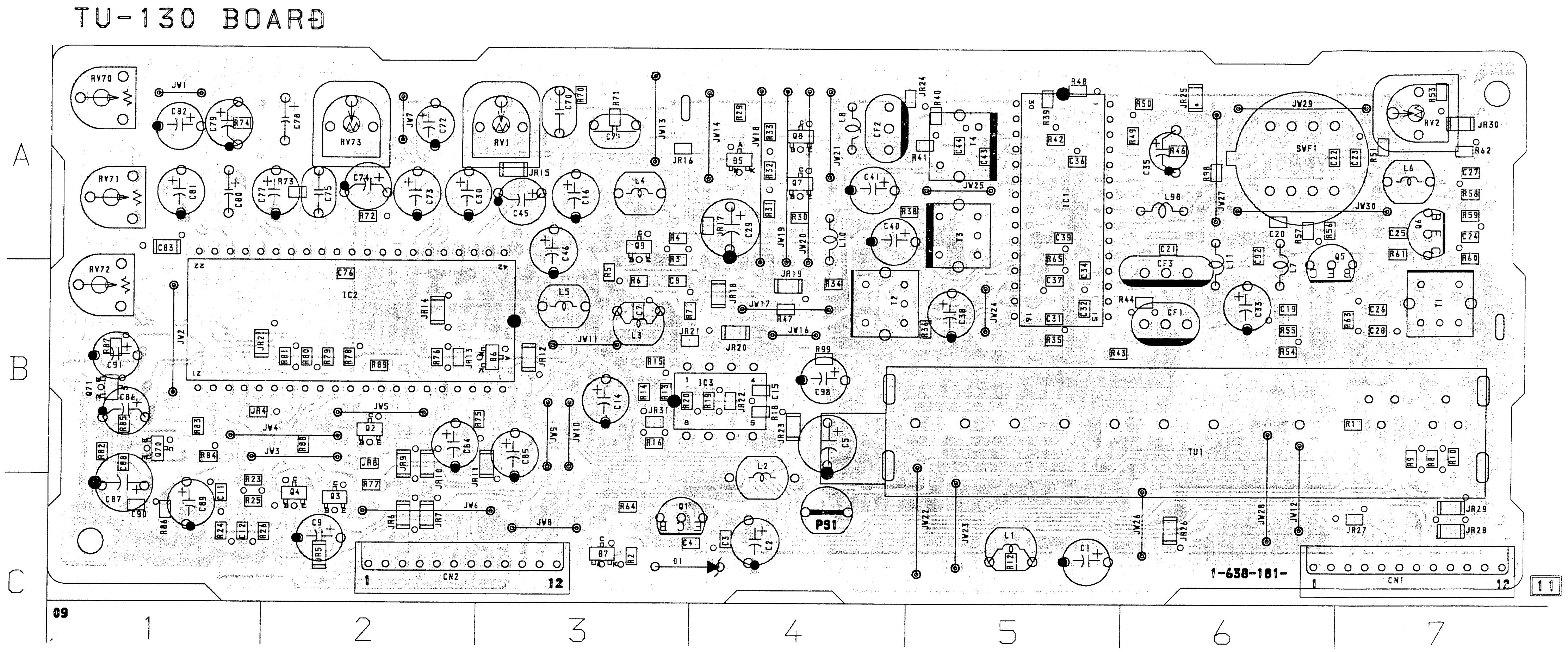

9
10
11
12
13
14
15
16
17
18
19
20
IC001
M51362SP
VIF/SIF
Q007, 008
MULTI SOUND
SWITCH
D005
DAP202K
R031 3300
Q008 2SC2412K
Q007 2SC2412K
R032 2200
R033 47
CF002
AFC
T004
R039 560
R040 100
R042 1800
L008 15μH
R041 330
C043 12p CH
C044 68p CH
C041 0.47 50V
C040 47 16V
R038 47k
C039 6800p B
T003
VCO
L010 10μH
R65 8200
C037 1000p B
C038 1 50V
T002
SIF
R036 3900
C031 4700p B
R034 220k
R035 220k
R053 2200
IC001 M51362SP
RF AGC
RV002 4700
R049 3300
R046 820k
R047 220
R044 330
R043 330
R029 4700
C029 100 16V
R030 1800
R051 2200
R048 3900
C036 6800p B
C035 0.15 50V
C021 6800p B
CF003
CF001
C034 6800p B
C033 47 16V
C032 0.22 F
L011 10μH
R019 47k
R020 22k
R007 100
L004 10μH
Q009 2SC2412K
R005 100
L003 22μH SL
R003 330
R006 2200
C007 43p SL
R004 270
C008 43p SL
C015 0.022 F
C016 47 16V
C045 10 50V
Q009 BUFFER
C027 6800p B
R050 6800
R063 68
R062 1800
C028 8p CH
C026 12p CH
Q006 IF PREAMP
T001
TRAP
C025 6800p B
L006 0.33μH SL
C022 100p
R061 820
C023 6800p B
Q006 2SC3779C
R060 2200
C024 6800p B
R058 330
R059 330
C076 0.1 F
SWF001
R098 1800
L007 1μH
L098 1.2μH
R057 5600
Q005 2SC3779C
C092 6800p B
C020 6800p B
C019 6800p B
R056 3300
R055 390
R054 150
Q006 AUDIO IF PREAMP
LEVEL
C071 5600p PET
SEPARATION
RV001 10k
C030 10 50V
R070 100k
MPX IN LEVEL
R071 1M
SEPARATION
RV070 4700
C083 0.047 16V B
IC002
CXA1124AS
MPX
DECODER
IC002 CXA1124AS
D006 DAP202K
R088 10k
R089 10k
R077 4700
R076 100k
L005 10μH
R023 2200
R025 2200
C011 3900p B
C012 3900p B
R075 10k
C084 4.7 50V
C085 0.47 50V
C046 47 16V
FLT
VCO
RV071 22k
RV072 47k
STEREO FILTER
VCO
R082 4.7k
C087 10 16V
R083 3900
Q070 2SC2412K
R085 10k
R084 1k
C088 0.01 B
C089 3.3 25V
R086 3900
C090 0.033 B
Q071 DTC144EK
R087 15k
C091 10 50V
Q071 MUTE

- **SIGNAL PATH**

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC			➡≫	➡
PB				

TU-130 (TUNER) PRINTED WIRING BOARD

— Ref. No. TU-130 BOARD: 5000 series —



TU-130 BOARD

CN001	C-7
CN002	C-2
D001	C-3
D005	A-4
D006	B-3
D007	C-3
IC001	A-5
IC002	B-2
IC003	B-4
Q001	C-3
Q002	B-2
Q003	C-2
Q004	C-2
Q005	B-7
Q006	A-7
Q007	A-4
Q008	A-4
Q009	A-3
Q070	B-1
Q071	B-1
RV001	A-3
RV002	A-7
RV070	A-1
RV071	A-1
RV072	B-1
RV073	A-2

TU-130 BOARD, COMPLETE
****

< DIODE >

D001	8-719-110-78	DIODE	RD33ES. B2
D005	8-719-104-34	DIODE	1S2836
D006	8-719-104-34	DIODE	1S2836
D007	8-719-800-76	DIODE	1SS226

< IC >

IC001	8-759-630-93	IC	M51362SP
IC002	8-752-035-71	IC	CXA1124AS
IC003	8-759-981-64	IC	LM2903DQ

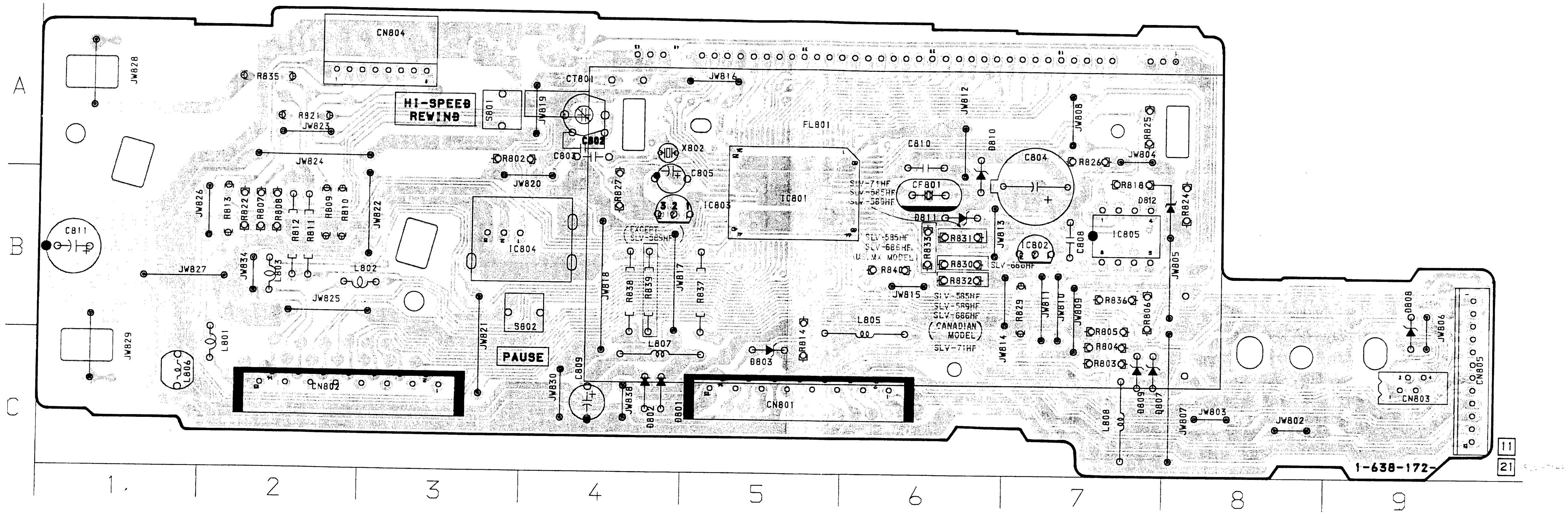
< TRANSISTOR >

Q001	8-729-173-38	TRANSISTOR	2SA733-K
Q002	8-729-901-01	TRANSISTOR	DTC144EK
Q003	8-729-901-06	TRANSISTOR	DTA144EK
Q004	8-729-901-01	TRANSISTOR	DTC144EK
Q005	8-729-822-90	TRANSISTOR	2SC3779C
Q006	8-729-822-90	TRANSISTOR	2SC3779C
Q007	8-729-920-74	TRANSISTOR	2SC2412K-QR
Q008	8-729-920-74	TRANSISTOR	2SC2412K-QR
Q009	8-729-920-74	TRANSISTOR	2SC2412K-QR
Q070	8-729-920-74	TRANSISTOR	2SC2412K-QR
Q071	8-729-901-01	TRANSISTOR	DTC144EK

MF-122 (TIMER/MODE CONTROL) PRINTED WIRING BOARD

— Ref. No. MF-122 BOARD: 5000 series —

MF-122 BOARD


A
B
C
1
2
3
4
5
6
7
8
9
CN801
CN802
CN803
CN804
CN805
CT801
HI-SPEED REWIND
PAUSE
S801
S802
FL801
IC801
IC803
IC804
IC805
IC802
CF801
C804
C805
C808
C809
C810
C811
X802
D801
D802
D803
D807
D808
D809
D810
D811
D812
L801
L802
L803
L805
L806
L807
L808
R802
R803
R804
R805
R806
R807
R808
R809
R810
R811
R812
R813
R814
R818
R821
R822
R824
R825
R826
R827
R829
R830
R831
R832
R833
R835
R836
R837
R838
R839
R840
JW802
JW803
JW804
JW805
JW806
JW807
JW808
JW811
JW812
JW813
JW814
JW815
JW816
JW817
JW818
JW819
JW820
JW821
JW822
JW823
JW824
JW825
JW826
JW827
JW828
JW829
JW830
JW834
JW838
SLV-71HF
SLV-585HF
SLV-589HF
EXCEPT SLV-589HF
SLV-585HF
SLV-686HF
(U.MX MODEL)
SLV-585HF
SLV-589HF
SLV-686HF
(CANADIAN MODEL)
SLV-71HF
1-638-172-
11
21

MF-122 BOARD

CN801	C-5
CN802	C-2
CN803	C-9
CN804	A-3
CN805	C-9
CT801	A-4
D801	C-4
D802	C-4
D803	C-5
D805	A-3
D806	A-4
D807	B-7
D808	B-9
D809	B-7
D810	B-6
D811	B-6
IC801	B-5
IC802	B-7
IC803	B-4
IC804	B-3
IC805	B-7

MF-122 BOARD, COMPLETE
****

< DIODE >

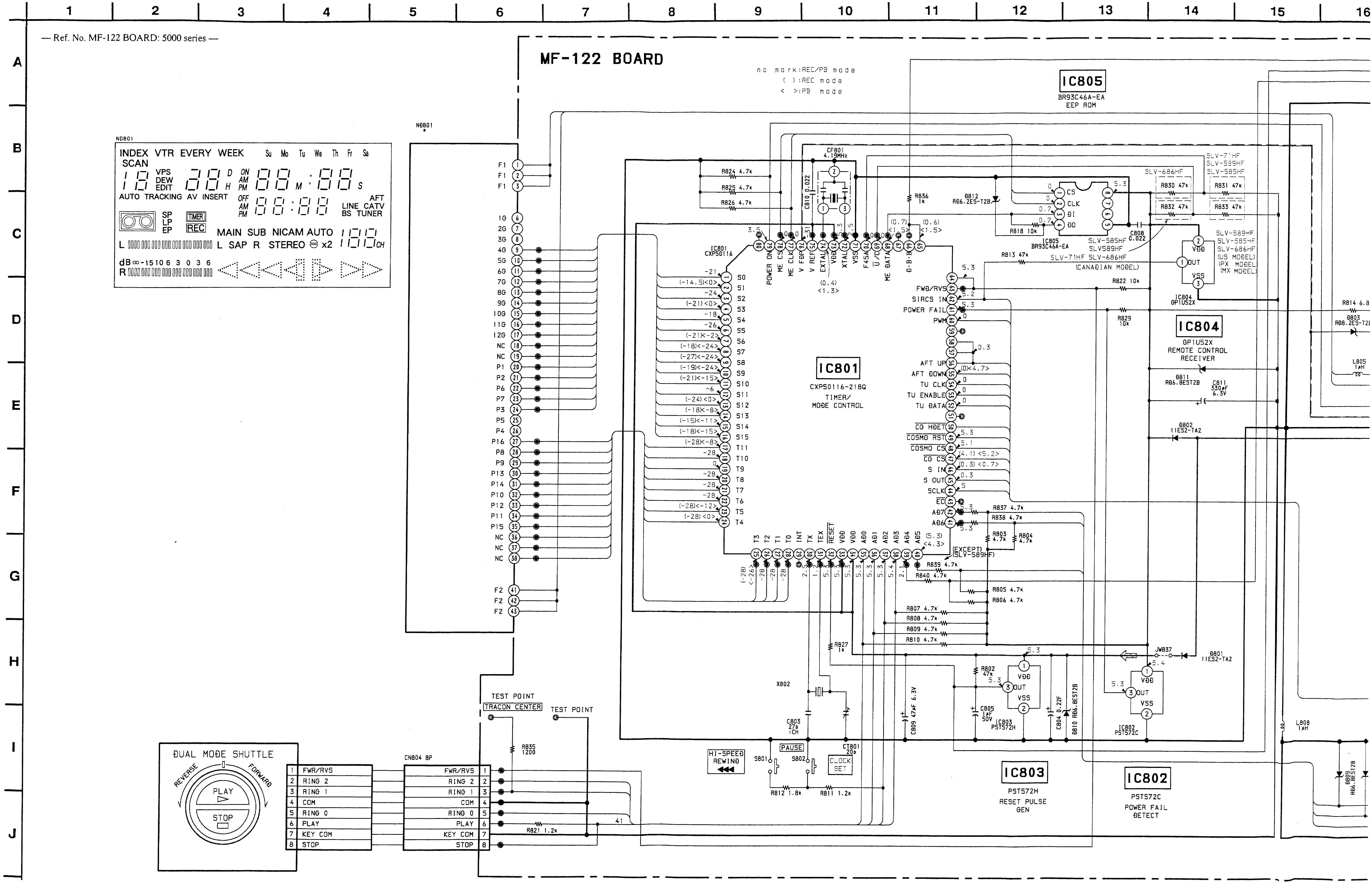
D801	8-719-200-82	DIODE	11ES2
D802	8-719-200-82	DIODE	11ES2
D803	8-719-110-08	DIODE	RD8. 2ES-T2B
D807	8-719-109-97	DIODE	RD6. 8ES-T2B
D808	8-719-109-97	DIODE	RD6. 8ES-T2B
D809	8-719-109-97	DIODE	RD6. 8ES-T2B
D810	8-719-109-97	DIODE	RD6. 8ES-T2B
D811	8-719-109-97	DIODE	RD6. 8ES-T2B

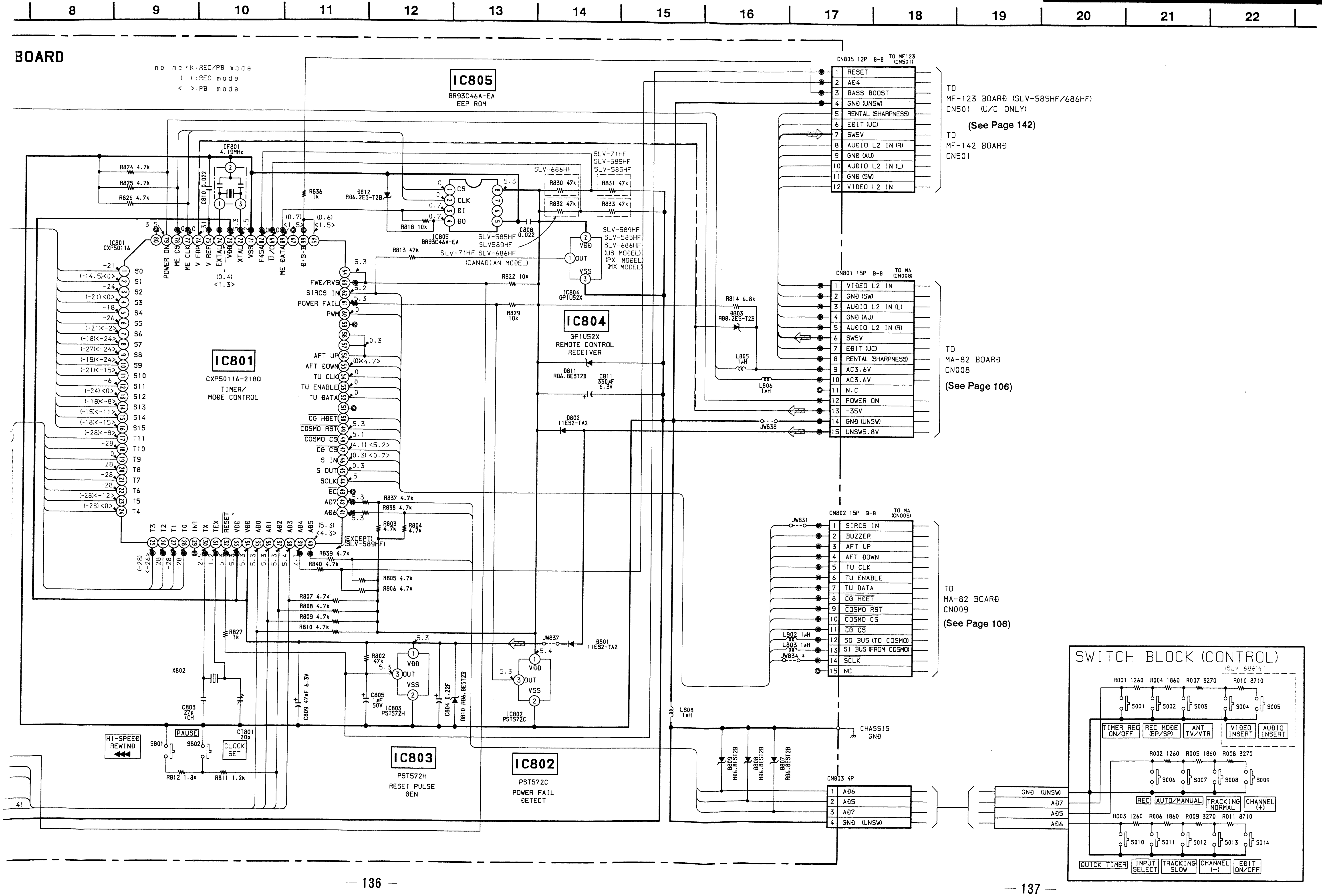
< IC >

IC801	8-752-818-75	IC	CXP50116-VSX1120
IC802	8-759-946-03	IC	S-8054ALP-LN-S
IC803	8-759-502-50	IC	S-8053HNB
IC804	1-466-131-21	IC	GP1U52X
IC805	8-759-996-58	IC	AK93C46

MF-122 (TIMER/MODE CONTROL) SCHEMATIC DIAGRAM

— Ref. No. MF-122 BOARD: 5000 series —

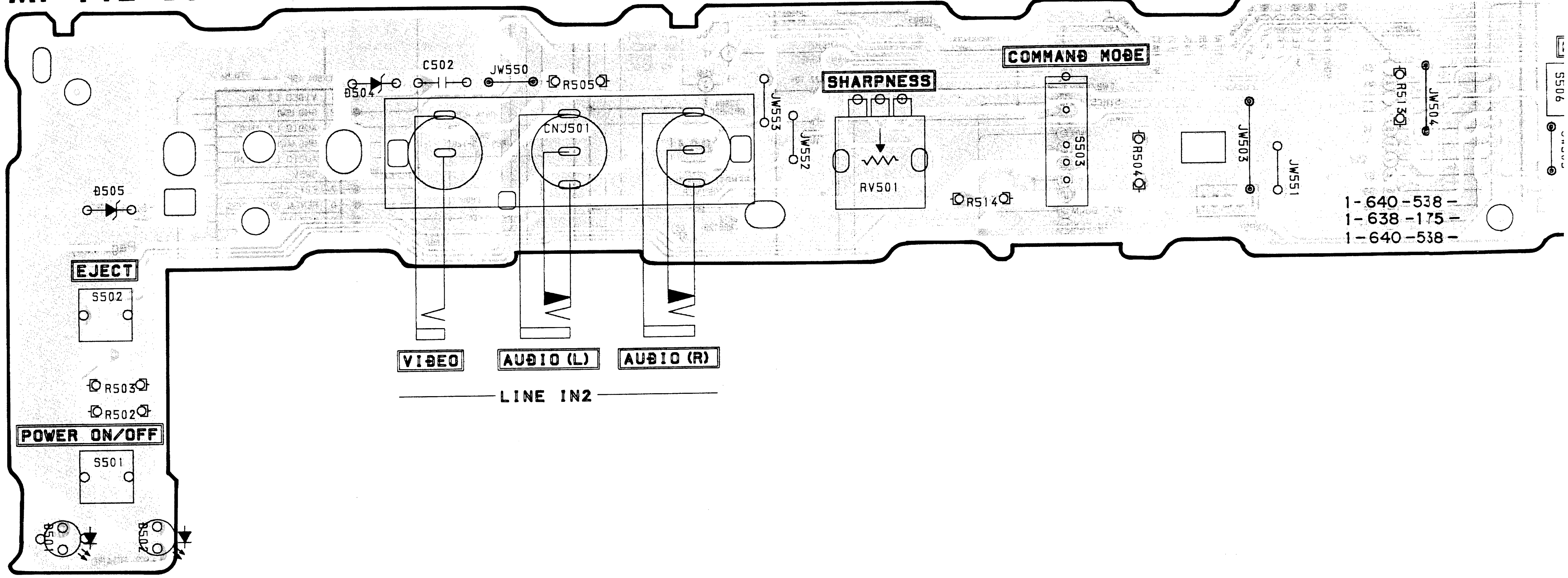

MF-122 BOARD
no mark:REC/PB mode
( ):REC mode
< >:PB mode
ND801
INDEX VTR EVERY WEEK Su Mo Tu We Th Fr Sa
SCAN
VPS DEW EDIT
AUTO TRACKING AV INSERT
LINE CATV BS TUNER AFT
SP LP EP TIMER REC
MAIN SUB NICAM AUTO
L SAP R STEREO x2
CH
dB∞-15 10 6 3 0 3 6
ND801
IC801
CXP50116-218Q
TIMER/
MODE CONTROL
IC805
BR93C46A-EA
EEP ROM
IC804
GP1U52X
REMOTE CONTROL
RECEIVER
IC803
PST572H
RESET PULSE
GEN
IC802
PST572C
POWER FAIL
DETECT
CF801 4.19MHz
X802
DUAL MODE SHUTTLE
REVERSE
FORWARD
PLAY
STOP
CN804 8P
FWR/RVS
RING 2
RING 1
COM
RING 0
PLAY
KEY COM
STOP
TEST POINT
TRACON CENTER
TEST POINT
HI-SPEED REWIND
PAUSE
CLOCK SET
S801
S802
R835 1200
R821 1.2k
R812 1.8k
R811 1.2k
R824 4.7k
R825 4.7k
R826 4.7k
R836 1k
D812 RD6.2ES-T2B
R818 10k
R813 47k
R822 10k
R829 10k
C808 0.022
R830 47k
R831 47k
R832 47k
R833 47k
SLV-686HF
SLV-7*HF
SLV-589HF
SLV-585HF
SLV-585HF
SLV589HF
SLV-71HF SLV-686HF
(CANADIAN MODEL)
(US MODEL)
(PX MODEL)
(MX MODEL)
D811 RD6.8ESTB
C811 330µF 6.3V
D802 11ES2-TA2
D801 11ES2-TA2
JW837
R814 6.8
D803 RD8.2ES-T2B
L805 1µH
L808 1µH
D805 RD6.8ESTB
R837 4.7k
R838 4.7k
R803 4.7k
R804 4.7k
R839 4.7k
R840 4.7k
R805 4.7k
R806 4.7k
R807 4.7k
R808 4.7k
R809 4.7k
R810 4.7k
R827 1k
R802 47k
C805 1µF 50V
C804 0.22F
D810 RD6.8ESTB
C809 47µF 6.3V
C803 27p :CH
CT801 20p
C810 0.022
(EXCEPT SLV-589HF)
FWD/RVS
SIRCS IN
POWER FAIL
PWM
AFT UP
AFT DOWN
TU CLK
TU ENABLE
TU DATA
CG HDET
COSMO RST
COSMO CS
CG CS
S IN
S OUT
SCLK
EC
AD7
AD6
POWER ON
ME CS
ME CLK
V FDP
V REF
EXTAL
VDD
XTAL
VSS
F45A
U/C
ME DATA
D-B-B
S0 S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15
T11 T10 T9 T8 T7 T6 T5 T4
T3 T2 T1 T0 INT TX TEX RESET VDD AD0 AD1 AD2 AD4 AD5
CS CLK DI DO
VDD OUT VSS
F1 F1 F1 1G 2G 3G 4G 5G 6G 7G 8G 9G 10G 11G 12G NC NC P1 P2 P6 P7 P3 P5 P4 P16 P8 P9 P13 P14 P10 P12 P11 P15 NC NC NC F2 F2 F2
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
A B C D E F G H I J

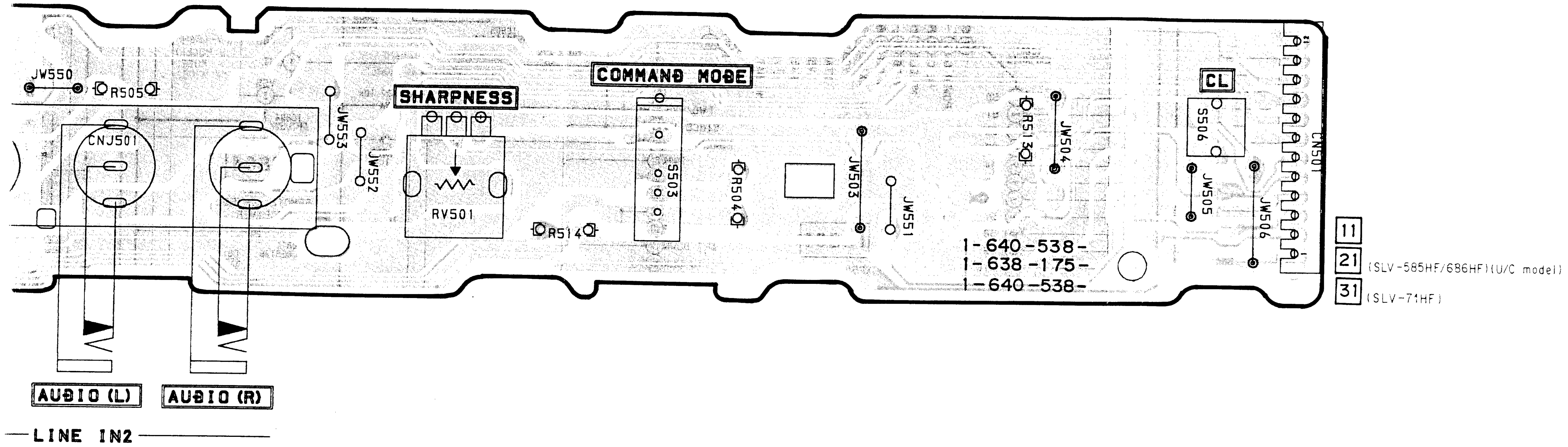

8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
BOARD
no mark:REC/PB mode
( ):REC mode
< >:PB mode
IC805
BR93C46A-EA
EEP ROM
IC801
CXP50116-218Q
TIMER/
MODE CONTROL
IC804
GP1U52X
REMOTE CONTROL
RECEIVER
IC803
PST572H
RESET PULSE
GEN
IC802
PST572C
POWER FAIL
DETECT
CF801 4.19MHz
C810 0.022
R824 4.7k
R825 4.7k
R826 4.7k
R836 1k
D812 RD6.2ES-T2B
R818 10k
C808 0.022
R813 47k
R822 10k
R829 10k
D811 RD6.8ESTB
C811 330μF 6.3V
D802 11ES2-TA2
D801 11ES2-TA2
R830 47k
R831 47k
R832 47k
R833 47k
SLV-686HF
SLV-71HF
SLV-589HF
SLV-585HF
SLV-585HF
SLV589HF
SLV-71HF SLV-686HF
(CANADIAN MODEL)
SLV-589HF
SLV-585HF
SLV-686HF
(US MODEL)
(PX MODEL)
(MX MODEL)
CS
CLK
DI
DO
VDD
OUT
VSS
POWER ON
ME CS
ME CLK
V FDP
V REF
EXTAL
VDD
XTAL
VSS
F45A
U/C
ME DATA
D·B·B
FWD/RVS
SIRCS IN
POWER FAIL
PWM
AFT UP
AFT DOWN
TU CLK
TU ENABLE
TU DATA
CG HDET
COSMO RST
COSMO CS
CG CS
S IN
S OUT
SCLK
EC
AD7
AD6
S0 S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15
T11 T10 T9 T8 T7 T6 T5 T4
T3 T2 T1 T0 INT TX TEX RESET VDD VDD AD0 AD1 AD2 AD3 AD4 AD5
(EXCEPT) (SLV-589HF)
R837 4.7k
R838 4.7k
R803 4.7k
R804 4.7k
R839 4.7k
R840 4.7k
R805 4.7k
R806 4.7k
R807 4.7k
R808 4.7k
R809 4.7k
R810 4.7k
R827 1k
R802 47k
C805 1μF 50V
C809 47μF 6.3V
C804 0.22F
D810 RD6.8ESTB
JW837
JW838
JW831
JW834
X802
C803 27p CH
CT801 20p
HI-SPEED REWIND ◀◀◀
S801
PAUSE
S802
CLOCK SET
R812 1.8k
R811 1.2k
R814 6.8k
D803 RD8.2ES-T2B
L805 1μH
L806 1μH
L808 1μH
L802 1μH
L803 1μH
D809 RD6.8ESTB
D808 RD6.8ESTB
D807 RD6.8ESTB
CHASSIS GND
CN805 12P B-B TO MF123 (CN501)
1 RESET
2 AD4
3 BASS BOOST
4 GND (UNSW)
5 RENTAL (SHARPNESS)
6 EDIT (UC)
7 SWSV
8 AUDIO L2 IN (R)
9 GND (AU)
10 AUDIO L2 IN (L)
11 GND (SW)
12 VIDEO L2 IN
TO
MF-123 BOARD (SLV-585HF/686HF)
CN501 (U/C ONLY)
(See Page 142)
TO
MF-142 BOARD
CN501
CN801 15P B-B TO MA (CN008)
1 VIDEO L2 IN
2 GND (SW)
3 AUDIO L2 IN (L)
4 GND (AU)
5 AUDIO L2 IN (R)
6 SWSV
7 EDIT (UC)
8 RENTAL (SHARPNESS)
9 AC3.6V
10 AC3.6V
11 N.C
12 POWER ON
13 -35V
14 GND (UNSW)
15 UNSW5.8V
TO
MA-82 BOARD
CN008
(See Page 106)
CN802 15P B-B TO MA (CN009)
1 SIRCS IN
2 BUZZER
3 AFT UP
4 AFT DOWN
5 TU CLK
6 TU ENABLE
7 TU DATA
8 CG HDET
9 COSMO RST
10 COSMO CS
11 CG CS
12 S0 BUS (TO COSMO)
13 S1 BUS (FROM COSMO)
14 SCLK
15 NC
TO
MA-82 BOARD
CN009
(See Page 106)
CN803 4P
1 AD6
2 AD5
3 AD7
4 GND (UNSW)
GND (UNSW)
AD7
AD5
AD6
SWITCH BLOCK (CONTROL)
(SLV-686HF)
R001 1260 R004 1860 R007 3270 R010 8710
S001 S002 S003 S004 S005
TIMER REC ON/OFF
REC MODE (EP/SP)
ANT TV/VTR
VIDEO INSERT
AUDIO INSERT
R002 1260 R005 1860 R008 3270
S006 S007 S008 S009
REC
AUTO/MANUAL
TRACKING NORMAL
CHANNEL (+)
R003 1260 R006 1860 R009 3270 R011 8710
S010 S011 S012 S013 S014
QUICK TIMER
INPUT SELECT
TRACKING SLOW
CHANNEL (-)
EDIT ON/OFF
41

MF-123/142 (VIDEO/AUDIO IN/OUT) PRINTED WIRING BOARD

— Ref. No. MF-123/142 BOARD: 5000 series —

MF-123 BOARD (SLV-585HF/686HF)(U/C ONLY)
MF-142 BOARD


C502
JW550
D504
R505
JW553
JW552
CNJ501
SHARPNESS
RV501
COMMAND MODE
S503
R504
R514
JW503
JW551
R513
JW504
S506
1-640-538-
1-638-175-
1-640-538-
D505
EJECT
S502
R503
R502
POWER ON/OFF
S501
D501
D502
VIDEO
AUDIO (L)
AUDIO (R)
LINE IN2


JW550
R505
CNJ501
JW553
JW552
SHARPNESS
RV501
R514
COMMAND MODE
S503
R504
JW503
JW551
R513
JW504
1-640-538-
1-638-175-
1-640-538-
CL
S506
JW505
JW506
CN501
11
21 (SLV-585HF/686HF)(U/C model)
31 (SLV-71HF)
AUDIO (L)
AUDIO (R)
LINE IN2

MF-123/142 BOARD, COMPLETE

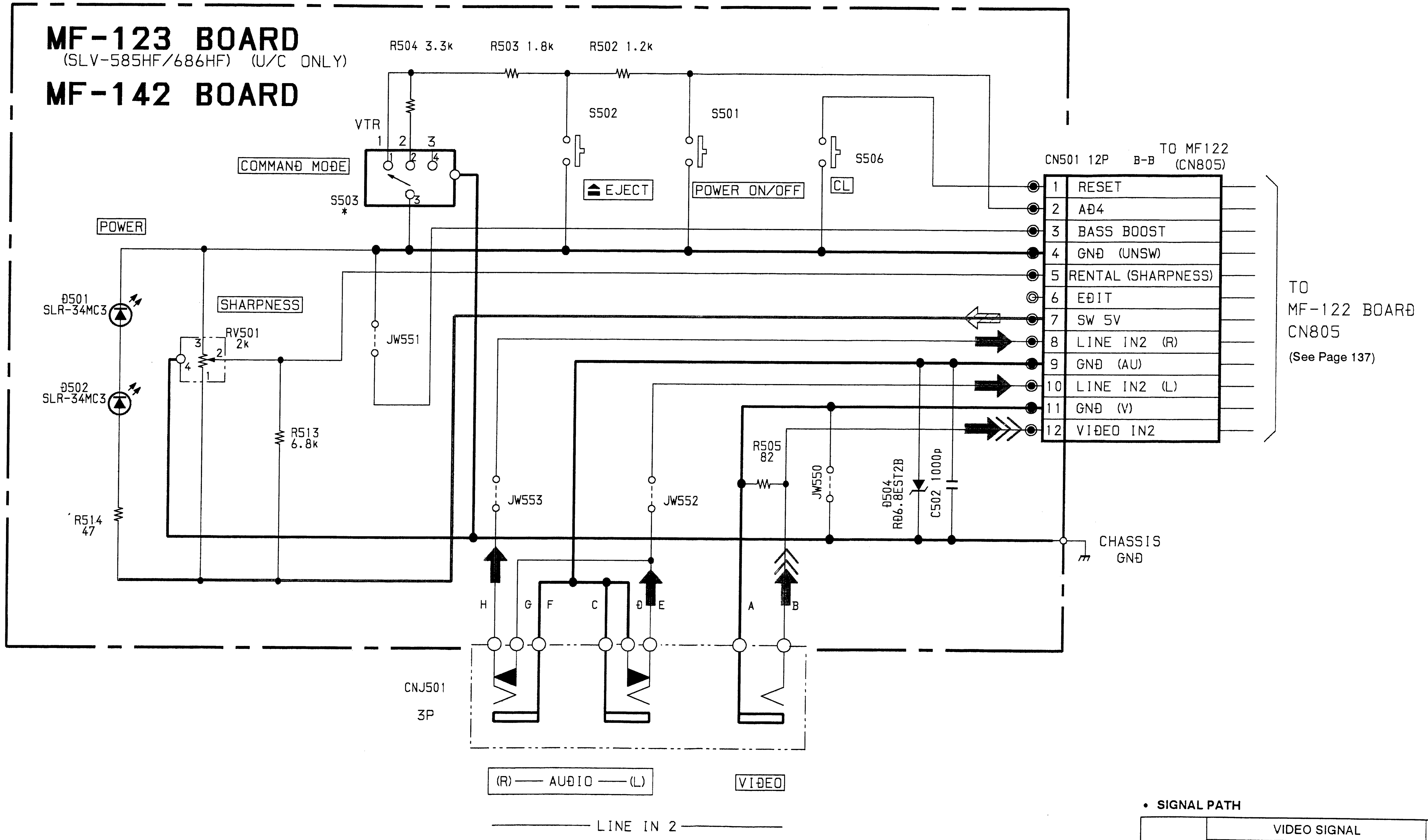
****

< DIODE >

D501	8-719-940-82	DIODE	SLR-34MC3
D502	8-719-940-82	DIODE	SLR-34MC3
D504	8-719-109-97	DIODE	RD6. 8ES-T2B

MF-123/142 (VIDEO/AUDIO IN/OUT) SCHEMATIC DIAGRAM

— Ref. No. MF-123/142 BOARD: 5000 series —


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
A B C D E F G H I J
MF-123 BOARD
(SLV-585HF/686HF) (U/C ONLY)
MF-142 BOARD
R504 3.3k
R503 1.8k
R502 1.2k
S502
S501
S506
VTR
COMMAND MODE
S503 *
EJECT
POWER ON/OFF
CL
POWER
D501 SLR-34MC3
D502 SLR-34MC3
SHARPNESS
RV501 2k
JW551
R513 6.8k
R514 47
JW553
JW552
R505 82
JW550
D504 RD6.8ESB2B
C502 1000p
CN501 12P B-B
TO MF122 (CN805)
1 RESET
2 AD4
3 BASS BOOST
4 GND (UNSW)
5 RENTAL (SHARPNESS)
6 EDIT
7 SW 5V
8 LINE IN2 (R)
9 GND (AU)
10 LINE IN2 (L)
11 GND (V)
12 VIDEO IN2
TO MF-122 BOARD CN805
(See Page 137)
CHASSIS GND
H G F C D E A B
CNJ501 3P
(R) — AUDIO — (L)
VIDEO
LINE IN 2

- SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC			➡>>	➡
PB			⇨>>	⇨

PS-274 (POWER), OL-11 (POWER IN), TR-61 (POWER DRIVE), TR-62 (POWER DRIVE) PRINTED WIRING BOARDS

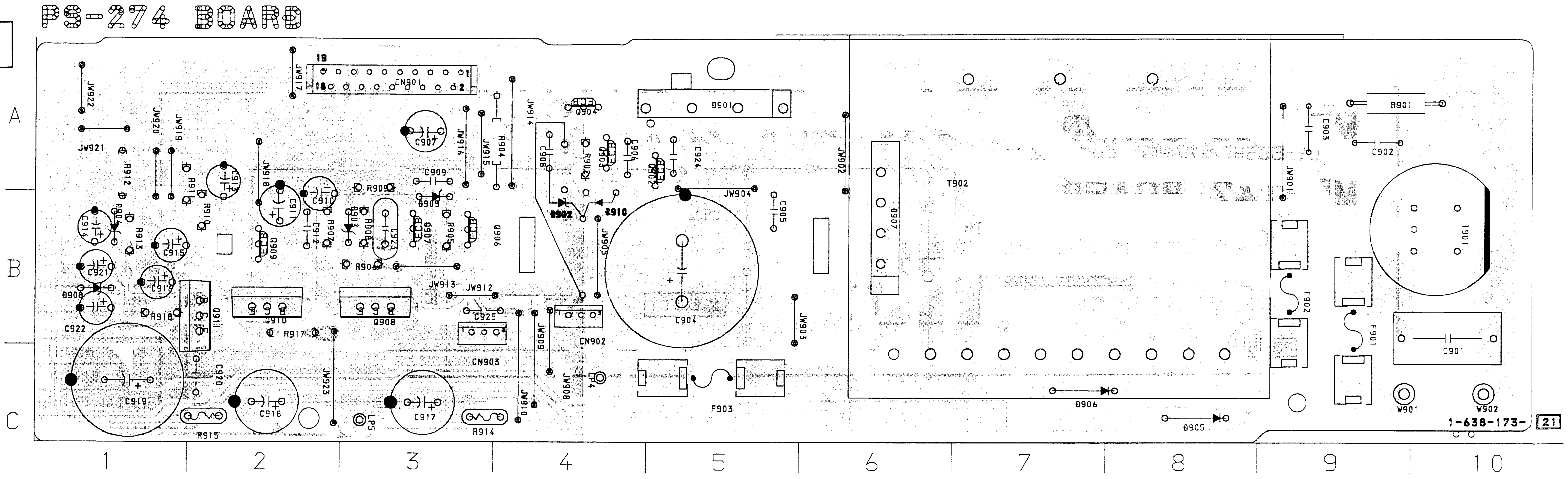
— Ref. No. PS-274 BOARD: 5000 series, OL-11 BOARD: 8000 series, TR-61 BOARD: 6000 series, TR-62 BOARD: 7000 series —

Note: The following parts of power supply block assemblies should be referred to the SUPPLEMENT-1.
SLV-585HF; US/686HF; US MODEL: serial No. 1,000,001 later.
SLV-585HF; CND/686HF; CND MODEL: serial No. 900,001 later.
SLV-585HF; PX/686HF; MX/589HF/71HF: serial No. 10,001 later.

PS-274 BOARD

CN901	A-3
CN902	B-4
CN903	C-3
D901	A-5
D902	B-4
D903	B-2
D904	B-1
D905	C-8
D906	C-7
D907	B-6
D908	B-1
D909	B-3
D910	B-4
Q902	B-5
Q903	B-4
Q904	A-4
Q906	B-3
Q907	B-3
Q908	B-3
Q909	B-2
Q910	B-2
Q911	B-1

SLV-585HF/686HF: U/C ONLY


PS-274 BOARD
A
B
C
1
2
3
4
5
6
7
8
9
10
CN901
CN902
CN903
T902
F902
F901
F903
C901
C904
C902
R901
W901
W902
1-638-173- 21

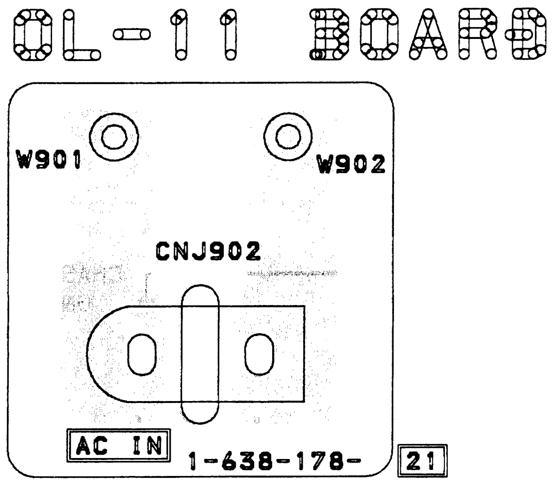
PS-274 BOARD, COMPLETE
****

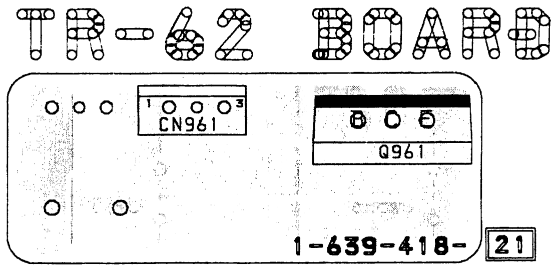
< DIODE >

D901	8-719-510-22	DIODE	D3SB60
D902	8-719-110-36	DIODE	RD13ES-B2
D903	8-719-109-85	DIODE	RD5. 1ES-B2
D904	8-719-109-93	DIODE	RD5. 6ES-B2
D905	8-719-200-82	DIODE	11ES2
D906	8-719-200-82	DIODE	11ES2
D907	8-719-511-40	DIODE	S1VB40
D908	8-719-109-97	DIODE	RD6. 8ES-B2
D909	8-719-110-63	DIODE	RD24ES-B2
D910	8-719-911-19	DIODE	1SS119

< TRANSISTOR >

Q902	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q903	8-729-900-61	TRANSISTOR	DTA114ES
Q904	8-729-900-89	TRANSISTOR	DTC144ES
Q906	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q907	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q908	8-729-111-55	TRANSISTOR	2SD1312-K
Q909	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q910	8-729-111-55	TRANSISTOR	2SD1312-K
Q911	8-729-111-55	TRANSISTOR	2SD1312-K

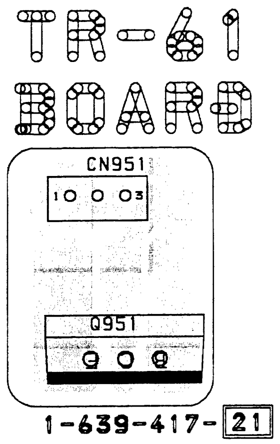

OL-11 BOARD
W901
W902
CNJ902
AC IN
1-638-178- 21


TR-62 BOARD
CN961
Q961
1-639-418- 21

TR-62 BOARD
****

< TRANSISTOR >

Q961	8-729-111-55	TRANSISTOR	2SD2061-F

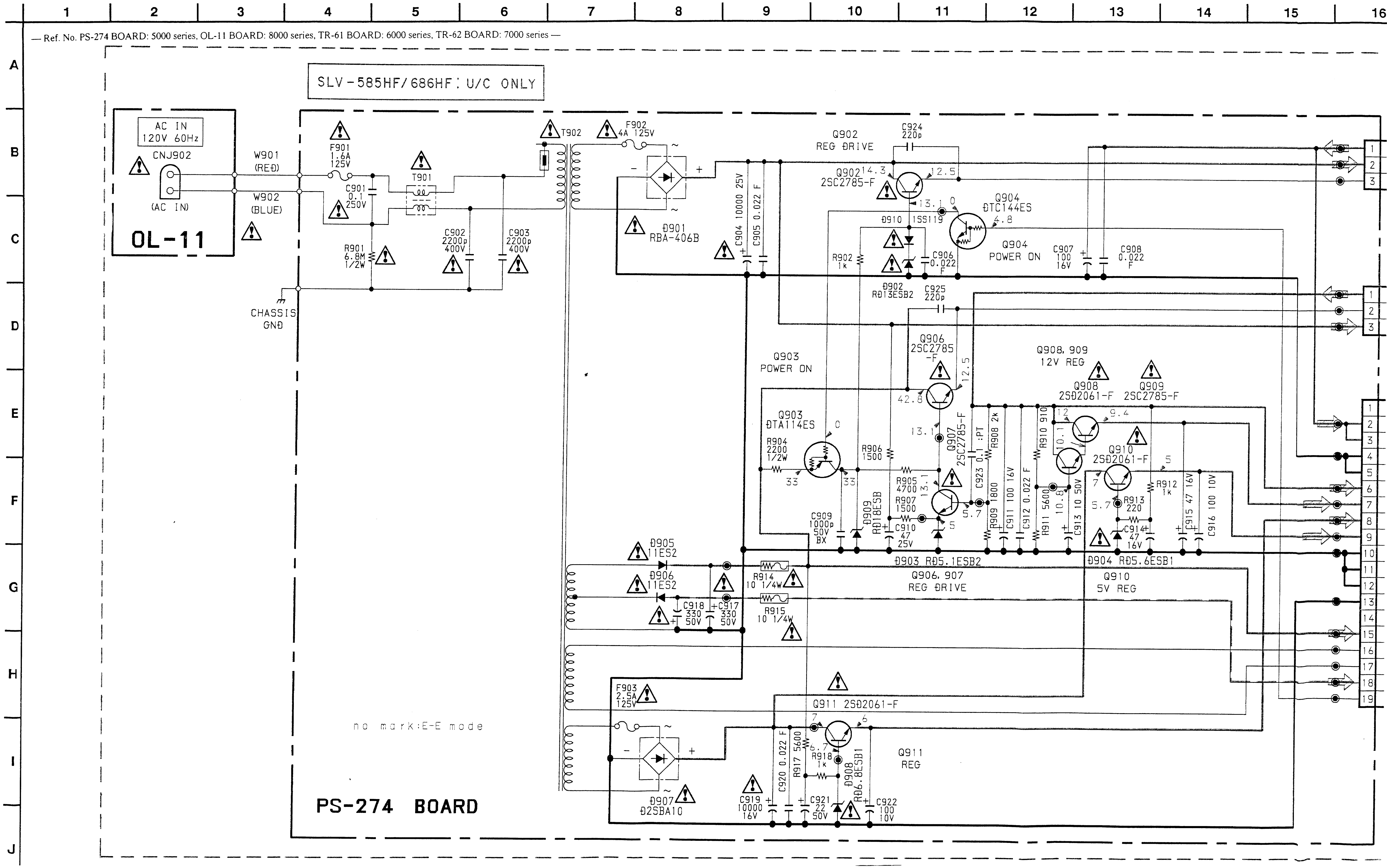

TR-61 BOARD
CN951
Q951
1-639-417- 21

TR-61 BOARD
****

< TRANSISTOR >

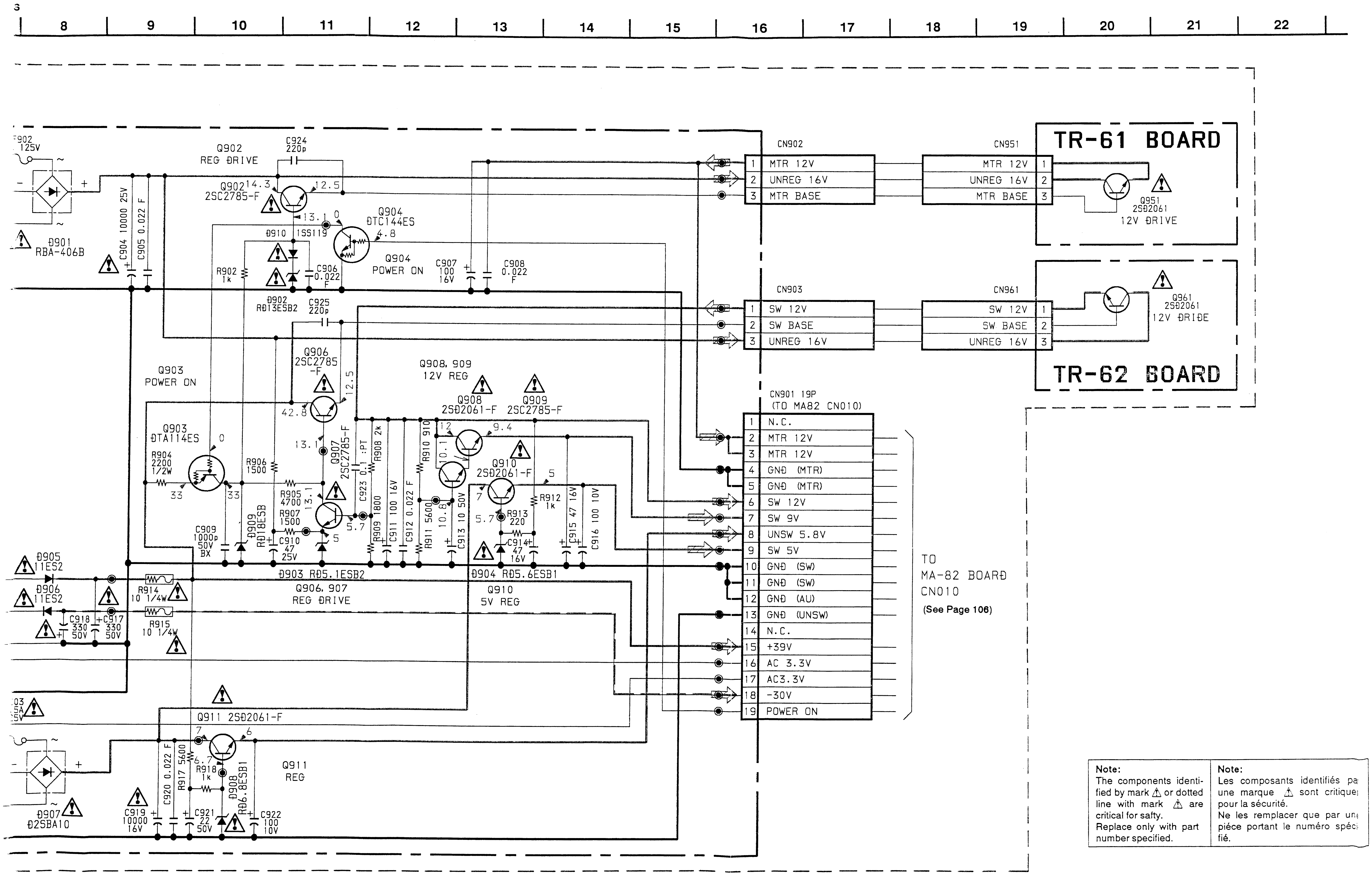
Q951	8-729-111-55	TRANSISTOR	2SD2061-F

PS-274 (POWER), OL-11 (POWER IN), TR-61 (POWER DRIVE), TR-62 (POWER DRIVE) SCHEMATIC DIAGRAMS



— Ref. No. PS-274 BOARD: 5000 series, OL-11 BOARD: 8000 series, TR-61 BOARD: 6000 series, TR-62 BOARD: 7000 series —

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
J
SLV-585HF/686HF: U/C ONLY
AC IN
120V 60Hz
CNJ902
(AC IN)
OL-11
W901
(RED)
W902
(BLUE)
CHASSIS
GND
F901
1.6A
125V
C901
0.1
250V
T901
R901
6.8M
1/2W
C902
2200p
400V
C903
2200p
400V
T902
F902
4A 125V
D901
RBA-406B
C904 10000 25V
C905 0.022 F
Q902
REG DRIVE
C924
220p
Q902
2SC2785-F
14.3
12.5
13.1
0
D910 1SS119
Q904
DTC144ES
4.8
Q904
POWER ON
C906
0.022
F
R902
1k
D902
RD13ESB2
C925
220p
C907
100
16V
C908
0.022
F
Q903
POWER ON
Q906
2SC2785
-F
12.5
Q908, 909
12V REG
Q908
2SD2061-F
Q909
2SC2785-F
Q903
DTA114ES
0
R904
2200
1/2W
33
33
42.8
13.1
R906
1500
R905
4700
R907
1500
13.1
Q907
2SC2785-F
C923 0.1 :PT
R908 2k
R909 1800
C911 100 16V
C912 0.022 F
R910 910
R911 5600
10.8
C913 10 50V
12
9.4
10.1
Q910
2SD2061-F
5
7
R912
1k
5.7
R913
220
C914
47
16V
C915 47 16V
C916 100 10V
5.7
5
C909
1000p
50V
BX
D909
RD18ESB
C910
47
25V
D903 RD5.1ESB2
Q906, 907
REG DRIVE
D904 RD5.6ESB1
Q910
5V REG
D905
11ES2
D906
11ES2
C918
330
50V
C917
330
50V
R914
10 1/4W
R915
10 1/4W
F903
2.5A
125V
D907
D2SBA10
Q911 2SD2061-F
7
6
5.7
C919
10000
16V
C920 0.022 F
R917 5600
R918
1k
D908
RD6.8ESB1
C921
22
50V
C922
100
10V
Q911
REG
no mark:E-E mode
PS-274 BOARD
1
2
3
1
2
3
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19

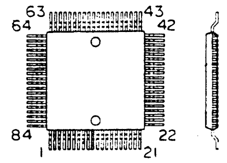

8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
F902
125V
D901
RBA-406B
C904 10000 25V
C905 0.022 F
Q902
REG DRIVE
C924
220p
Q902
2SC2785-F
14.3
12.5
13.1
0
Q904
DTC144ES
4.8
D910
1SS119
C906
0.022
F
R902
1k
D902
RD13ESB2
C925
220p
Q904
POWER ON
C907
100
16V
C908
0.022
F
CN902
MTR 12V
UNREG 16V
MTR BASE
CN951
TR-61 BOARD
Q951
2SD2061
12V DRIVE
CN903
SW 12V
SW BASE
UNREG 16V
CN961
Q961
2SD2061
12V DRIDE
TR-62 BOARD
Q906
2SC2785
-F
12.5
42.8
Q903
POWER ON
Q908, 909
12V REG
Q908
2SD2061-F
Q909
2SC2785-F
9.4
12
10.1
Q903
DTA114ES
0
R904
2200
1/2W
33
33
R906
1500
13.1
Q907
2SC2785-F
R905
4700
R907
1500
C923 0.1 :PT
R908 2k
R910 910
Q910
2SD2061-F
5
7
5.7
5.7
5
R912
1k
R913
220
C909
1000p
50V
BX
D909
RD18ESB
C910
47
25V
R909 1800
C911 100 16V
C912 0.022 F
R911 5600
10.8
C913 10 50V
C914
47
16V
C915 47 16V
C916 100 10V
D903 RD5.1ESB2
D904 RD5.6ESB1
Q906, 907
REG DRIVE
Q910
5V REG
D905
11ES2
D906
11ES2
R914
10 1/4W
R915
10 1/4W
C918
330
50V
C917
330
50V
CN901 19P
(TO MA82 CN010)
N.C.
MTR 12V
MTR 12V
GND (MTR)
GND (MTR)
SW 12V
SW 9V
UNSW 5.8V
SW 5V
GND (SW)
GND (SW)
GND (AU)
GND (UNSW)
N.C.
+39V
AC 3.3V
AC3.3V
-30V
POWER ON
TO
MA-82 BOARD
CN010
(See Page 106)
Q911 2SD2061-F
7
6
6.7
R917 5600
R918
1k
D908
RD6.8ESB1
Q911
REG
C920 0.022 F
C919
10000
16V
C921
22
50V
C922
100
10V
D907
D2SBA10

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safty.
Replace only with part number specified.

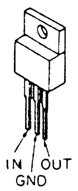
Note:
Les composants identifiés pa une marque ⚠ sont critique pour la sécurité.
Ne les remplacer que par un pièce portant le numéro spéc fié.

4-3. SEMICONDUCTORS

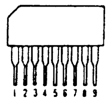
AN3937FBP


63
43
64
42
84
22
1
21

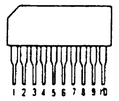
BA1780M05



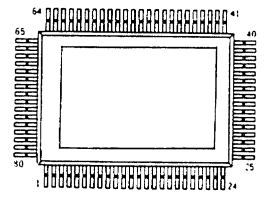
BA6138
BA7021



BA6238A

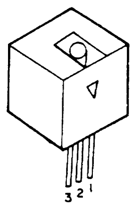

1 2 3 4 5 6 7 8 9 10

CXP50116-218Q

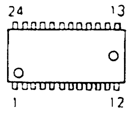

64
41
65
40
80
25
1
24

MARKING SIDE VIEW

GP1U52X

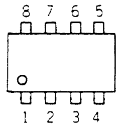


LA7316AN



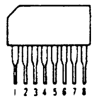
(Top view)

LC8991

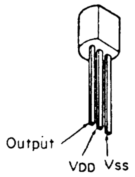


(Top view)

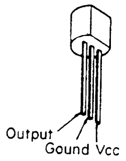
M5201L



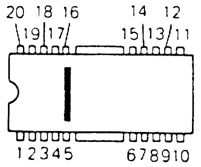
S-8053HNB


Output
VDD
Vss

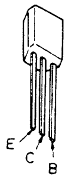
S-8054ALR


Output
Gound
Vcc

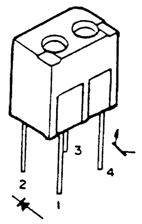
TA8424F


20 18 16
14 12
19 17
15 13 11
12345
678910

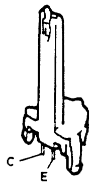
DTA124ES
DTA144ES
DTC144ES



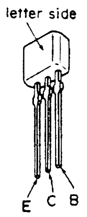
PS6002



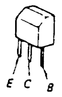
PT483FIS



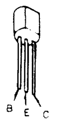
2SA1175-HFE
2SA2785-HFE


letter side
E
C
B

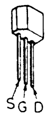
2SD774-34
2SD1312-K



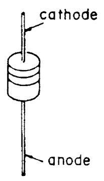
2SC3779C



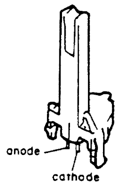
2SK381-A



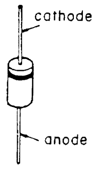
RD2.7ESL
RD4.7ES-B1
RD5.1ES-B2
RD6.2ES-B2
RD6.8ES-B2
RD8.2ES-B2
RD13ES-B2
RD24ES-B3
RD33ES-B2
1SS119
11ES2


cathode
anode

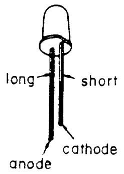
GL451VS1


anode
cathode

RD5.1EL2


cathode
anode

SLR-34MC3


long
short
cathode
anode

SECTION 5
EXPLODED VIEWS

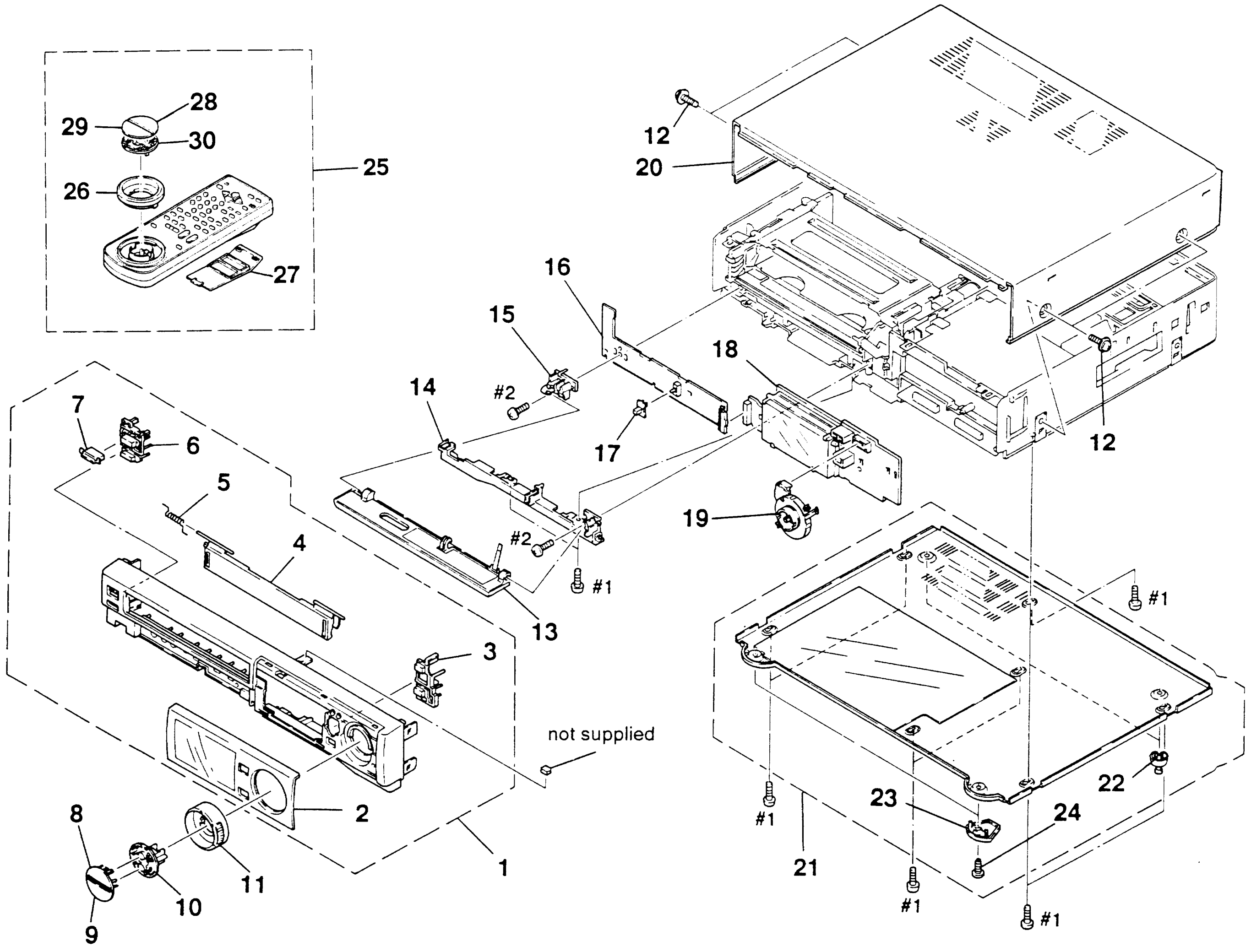
NOTE:

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked " ∗ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.
- Canadian model is abbreviated as CND, and also Mexican model is MX.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

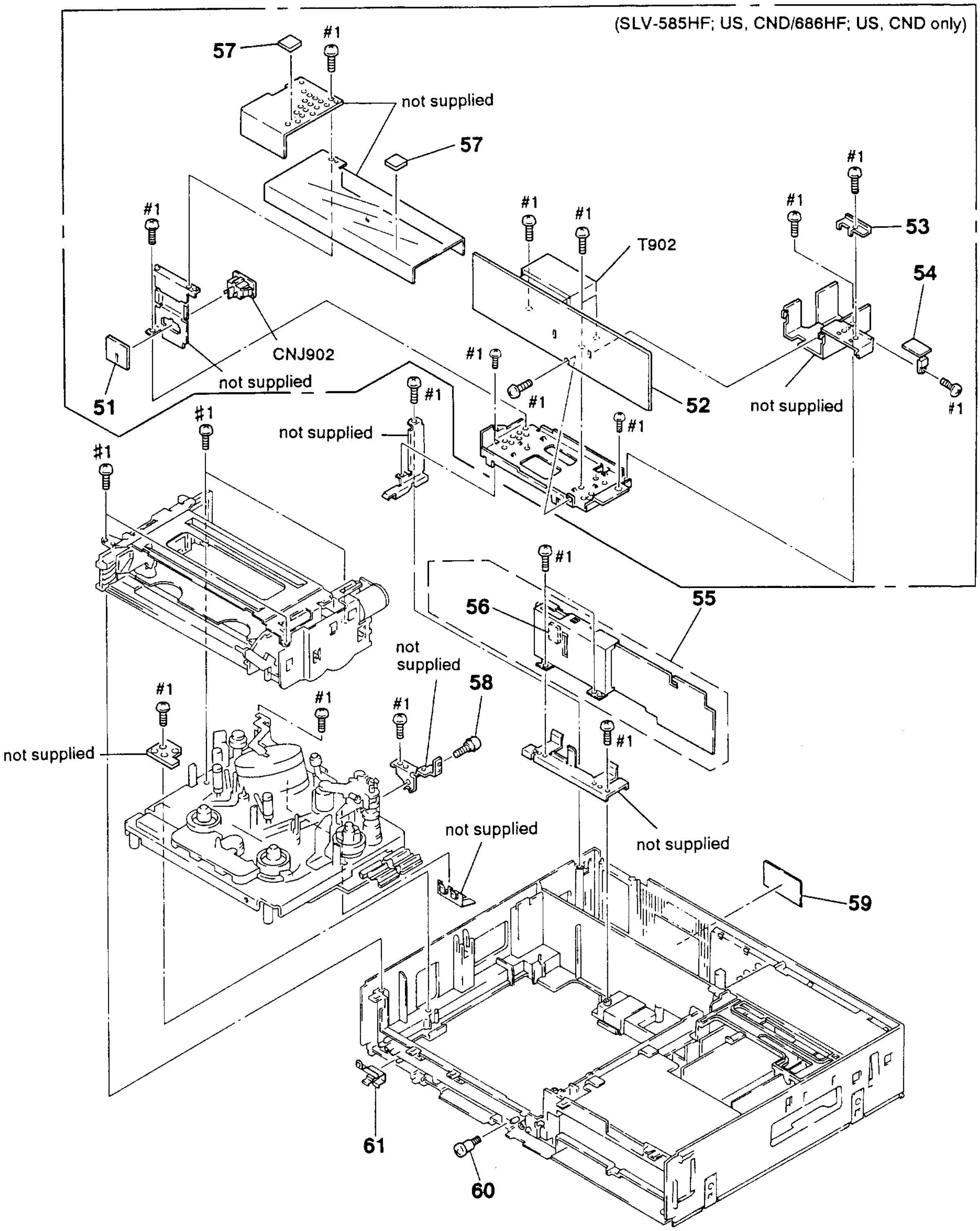
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

5-1. FRONT PANEL AND CASE ASSEMBLIES


28
29
30
26
25
27
12
20
16
15
14
#2
18
17
12
7
6
5
4
#2
19
#1
13
#1
3
not supplied
8
2
22
23
24
#1
21
1
11
10
9
#1
#1

Ref. No.	Part No.	Description	Remark
1	X-3940-320-1	PANEL ASSY, FRONT (585HF/589HF)	
1	X-3940-321-1	PANEL ASSY, FRONT (686HF)	
1	X-3941-633-1	PANEL ASSY, FRONT (71HF)	
2	3-941-523-11	PLATE, TRANSPARENT (EXCEPT 686HF)	
2	3-941-523-21	PLATE, TRANSPARENT (686HF)	
3	3-941-521-01	BUTTON, PAUSE (EXCEPT 71HF)	
3	3-944-742-01	BUTTON, PAUSE (71HF)	
4	3-941-519-91	DOOR, CASSETTE (EXCEPT 71HF)	
4	3-944-740-01	DOOR, CASSETTE (71HF)	
5	3-941-520-01	SPRING, FL (EXCEPT 71HF)	
5	3-944-750-01	SPRING, FL (71HF)	
6	3-941-517-11	BUTTON, POWER-EJECT (EXCEPT 71HF)	
6	3-944-747-01	BUTTON, POWER-EJECT (71HF)	
7	3-941-518-01	TIP, POWER BUTTON (EXCEPT 71HF)	
7	3-944-748-01	TIP, POWER BUTTON (71HF)	
8	3-941-510-11	BUTTON, PLAYBACK	
9	3-941-511-11	BUTTON, STOP	
10	3-941-515-01	HOLDER, BUTTON	
11	3-941-512-01	RING, SHUTTLE	
12	3-710-901-11	SCREW (3X8), TAPPING	
13	1-466-497-21	SWITCH BLOCK, CONTROL (585HF)	
13	1-466-497-31	SWITCH BLOCK, CONTROL (686HF)	
13	1-466-497-41	SWITCH BLOCK, CONTROL (71HF)	
13	1-466-497-51	SWITCH BLOCK, CONTROL (589HF)	
14	X-3940-667-1	ESCUTCHEON ASSY, FRAME	
15	3-941-537-01	PLATE(LEFT), FULCRUM, DOOR(EXCEPT 71HF)	
15	3-944-757-01	PLATE(LEFT), FULCRUM, DOOR (71HF)	
16	* A-6756-082-A	MF-123 BOARD, COMPLETE (585HF;US,CND)	
16	* A-6756-240-A	MF-123 BOARD, COMPLETE (686HF;US,CND)	
16	* A-6756-103-A	MF-142 BOARD, COMPLETE (71HF)	
16	* A-6756-248-A	MF-142 BOARD, COMPLETE (585HF;PX/589HF)	
16	* A-6756-253-A	MF-142 BOARD, COMPLETE (686HF;MX)	
17	3-744-217-01	KNOB, SELECTION	
18	* A-6721-389-A	MF-122 BOARD, COMPLETE (585HF;US,PX)	
18	* A-6721-390-A	MF-122 BOARD, COMPLETE(585HF;CND/589HF)	
18	* A-6721-391-A	MF-122 BOARD, COMPLETE (686HF;US,MX)	
18	* A-6721-393-A	MF-122 BOARD, COMPLETE (686HF;CND)	
18	* A-6721-401-A	MF-122 BOARD, COMPLETE (71HF)	
19	1-572-662-11	SWITCH, ROTARY (DUAL MODE SHUTTLE)	
20	3-741-985-01	CASE, UPPER (585HF;PX/686HF;MX/589HF/71HF)	
20	3-741-985-51	CASE, UPPER (585HF;US,CND/686HF;US,CND)	
21	X-3940-317-1	PLATE ASSY, BOTTOM (EXCEPT 71HF)	
21	X-3941-032-1	PLATE ASSY, BOTTOM (71HF)	
22	3-670-155-11	LEG	
23	3-941-509-01	INSULATOR	
24	3-721-343-01	SCREW, FIXED, M4X7	
25	1-465-770-11	REMOTE COMMANDER (RMT-V102A) (686HF)	
25	1-465-770-21	REMOTE COMMANDER (RMT-V102) (585HF/71HF)	
25	1-465-862-11	REMOTE COMMANDER (RMT-V112) (589HF)	
26	3-941-616-01	RING, SHUTTLE	
27	3-943-535-01	COVER, BATTERY	
28	3-941-617-11	BUTTON, PLAYBACK	
29	3-941-618-11	BUTTON, STOP	
30	3-941-619-01	HOLDER, DIAL	

5-2. POWER SUPPLY BLOCK ASSEMBLY


(SLV-585HF; US, CND/686HF; US, CND only)
57
#1
not supplied
57
#1
#1
#1
T902
#1
#1
53
54
CNJ902
#1
not supplied
#1
51
52
not supplied
#1
#1
#1
not supplied
#1
#1
#1
55
56
not
supplied
58
#1
#1
#1
#1
not supplied
not supplied
not supplied
59
61
60

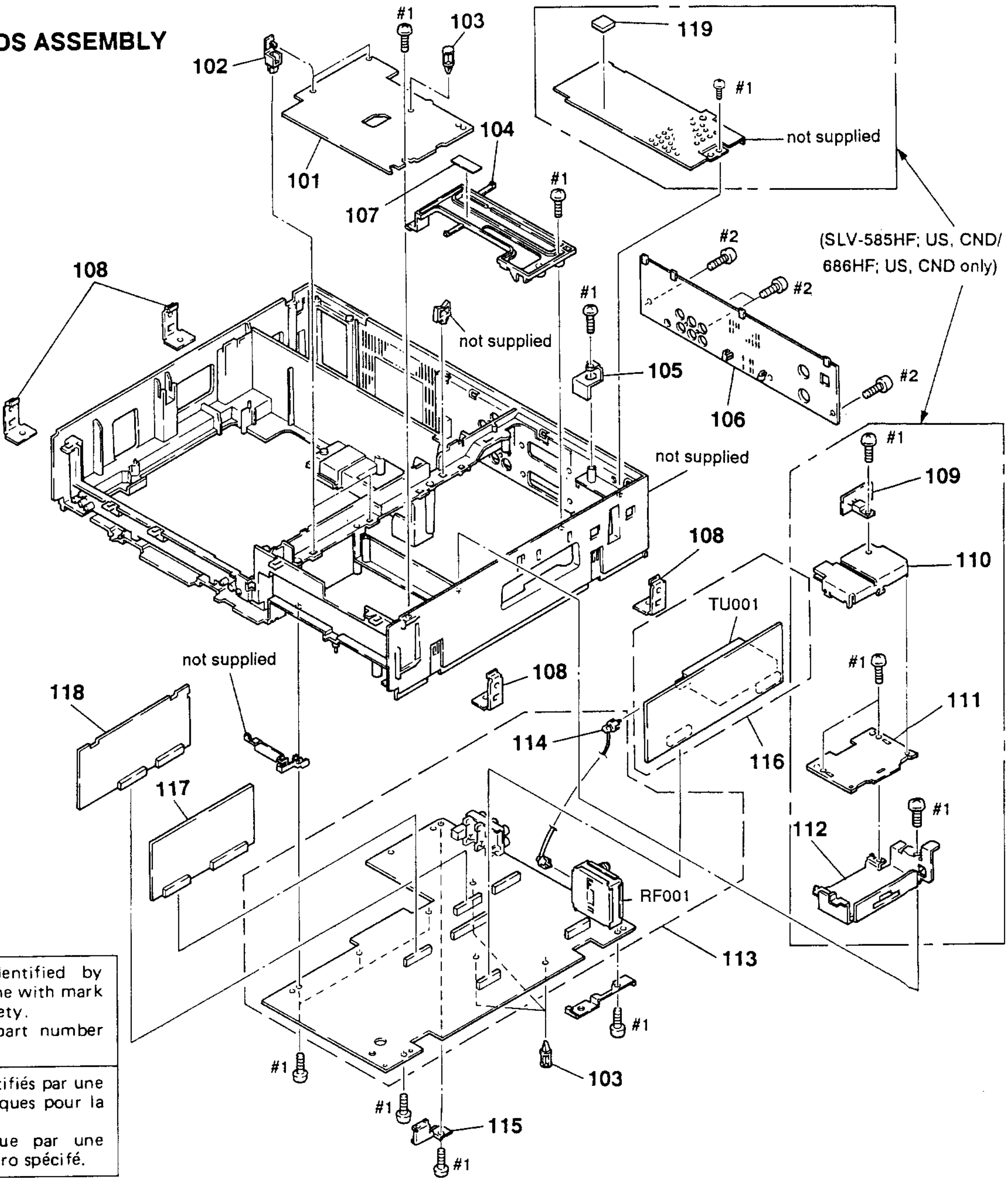
Note: The following parts of power supply block assemblies should be referred to the SUPPLEMENT-1.
SLV-585HF; US/686HF; US MODEL: serial No. 1,000,001 later.
SLV-585HF; CND/686HF; CND MODEL: serial No. 900,001 later.
SLV-585HF; PX/686HF; MX/589HF/71HF: serial No. 10,001 later.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifé.

Ref. No.	Part No.	Description	Remark
51	* 1-638-178-21	OL-11 BOARD (585HF;US, CND/686HF;US, CND)	
52	* A-6754-236-A	PS-274 BOARD, COMPLETE (585HF;US, CND/686HF;US, CND)	
53	* 3-941-528-01	RETAINER (B), IC (585HF;US, CND/686HF;US, CND)	
54	* 1-639-417-21	TR-61 BOARD (585HF;US, CND/686HF;US, CND)	
55	* A-6727-301-A	RP-112 BOARD, COMPLETE (686HF;US, CND)	
55	* A-6727-302-A	RP-112 BOARD, COMPLETE (585HF;US, CND)	
55	* A-6727-314-A	RP-128 BOARD, COMPLETE (71HF)	
55	* A-6727-357-A	RP-128 BOARD, COMPLETE (585HF;PX/589HF)	
55	* A-6727-361-A	RP-128 BOARD, COMPLETE (686HF;MX)	
56	* 1-639-699-12	DQ-6 BOARD (EXCEPT 71HF)	
56	* 1-639-699-31	DQ-6 BOARD (71HF)	
57	9-911-839-XX	RETAINER (B), MICROPHONE	
58	3-736-055-01	SCREW (3X8), TAPPING	
59	* 3-942-769-01	LABEL, MODEL NUMBER (B) (585HF;US, CND)	
59	* 3-942-770-01	LABEL, MODEL NUMBER (C) (686HF;US, CND)	
59	* 3-944-213-01	LABEL, MODEL NUMBER (MX) (686HF;MX)	
59	* 3-944-482-01	LABEL, MODEL NUMBER (D) (589HF)	
59	* 3-944-212-01	LABEL, MODEL NUMBER (PX) (585HF;PX)	
60	3-741-948-01	SCREW (3), SPECIAL (+) TAPPING	
61	3-741-968-01	PLATE, GROUND, MF	
CNJ902	⚠1-526-985-11	INLET 2P (585HF;US, CND/686HF;US, CND)	
T902	⚠1-450-372-11	TRANSFORMER, POWER (585HF;US, CND/686HF;US, CND)	

5-3. MAIN BOARDS ASSEMBLY


#1
103
119
102
#1
104
not supplied
101
107
#1
108
#2
(SLV-585HF; US, CND/ 686HF; US, CND only)
#2
#1
not supplied
105
#2
106
not supplied
#1
109
108
110
TU001
#1
111
not supplied
108
118
114
116
117
#1
112
RF001
113
#1
#1
103
#1
115
#1

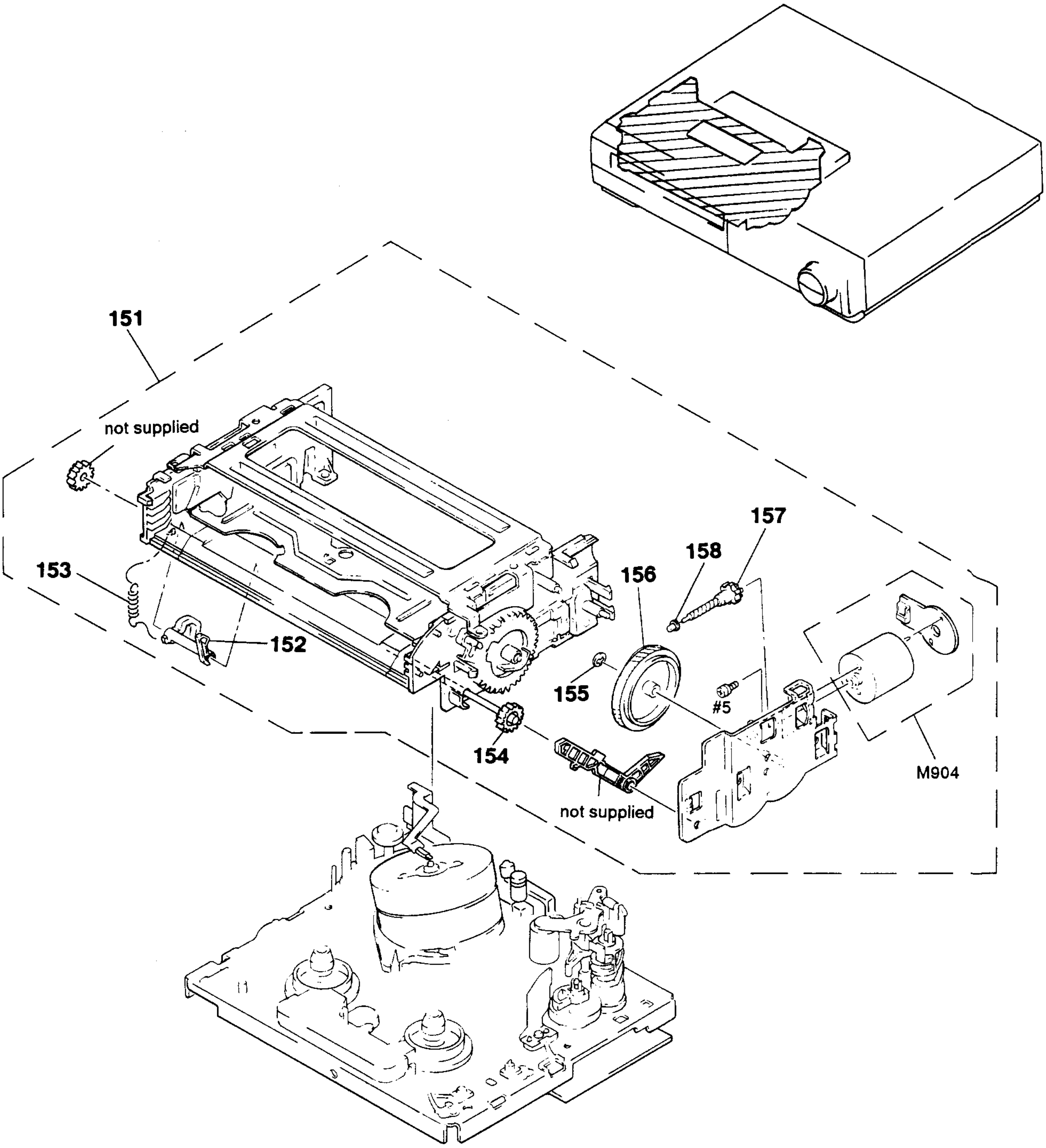
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifé.

Ref. No.	Part No.	Description	Remark
101	* A-6754-240-A	CA-46 BOARD, COMPLETE (686HF;US, CND)	
101	* A-6754-248-A	CA-46 BOARD, COMPLETE (585HF;US, CND)	
101	* A-6754-264-A	CA-47 BOARD, COMPLETE (71HF)	
101	* A-6754-360-A	CA-47 BOARD, COMPLETE (585HF;PX/589HF)	
101	* A-6754-361-A	CA-47 BOARD, COMPLETE (686HF;MX)	
102	3-736-704-01	HINGE, PC BOARD	
103	3-682-057-11	SPACER (SMALL)	
104	* 3-941-524-01	HOLDER, FRAME (EXCEPT 71HF)	
104	* 3-944-753-01	HOLDER, FRAME (71HF)	
105	* 3-741-963-01	BRACKET, RF	
106	3-941-514-11	PLATE, ORNAMENTAL, JACK (EXCEPT 71HF)	
106	3-944-739-01	PLATE, ORNAMENTAL, JACK (71HF)	
107	3-942-876-01	LABEL, CAUTION (585HF;US, CND/686HF;US, CND)	
108	* 3-741-992-01	STOPPER, UPPER CASE (EXCEPT 71HF)	
108	* 3-741-992-11	STOPPER, UPPER CASE (71HF)	
109	* 1-639-418-21	TR-62 BOARD (585HF;US, CND/686HF;US, CND)	
110	* 3-942-630-01	HEAT SIN (TR) (585HF;US, CND/686HF;US, CND)	

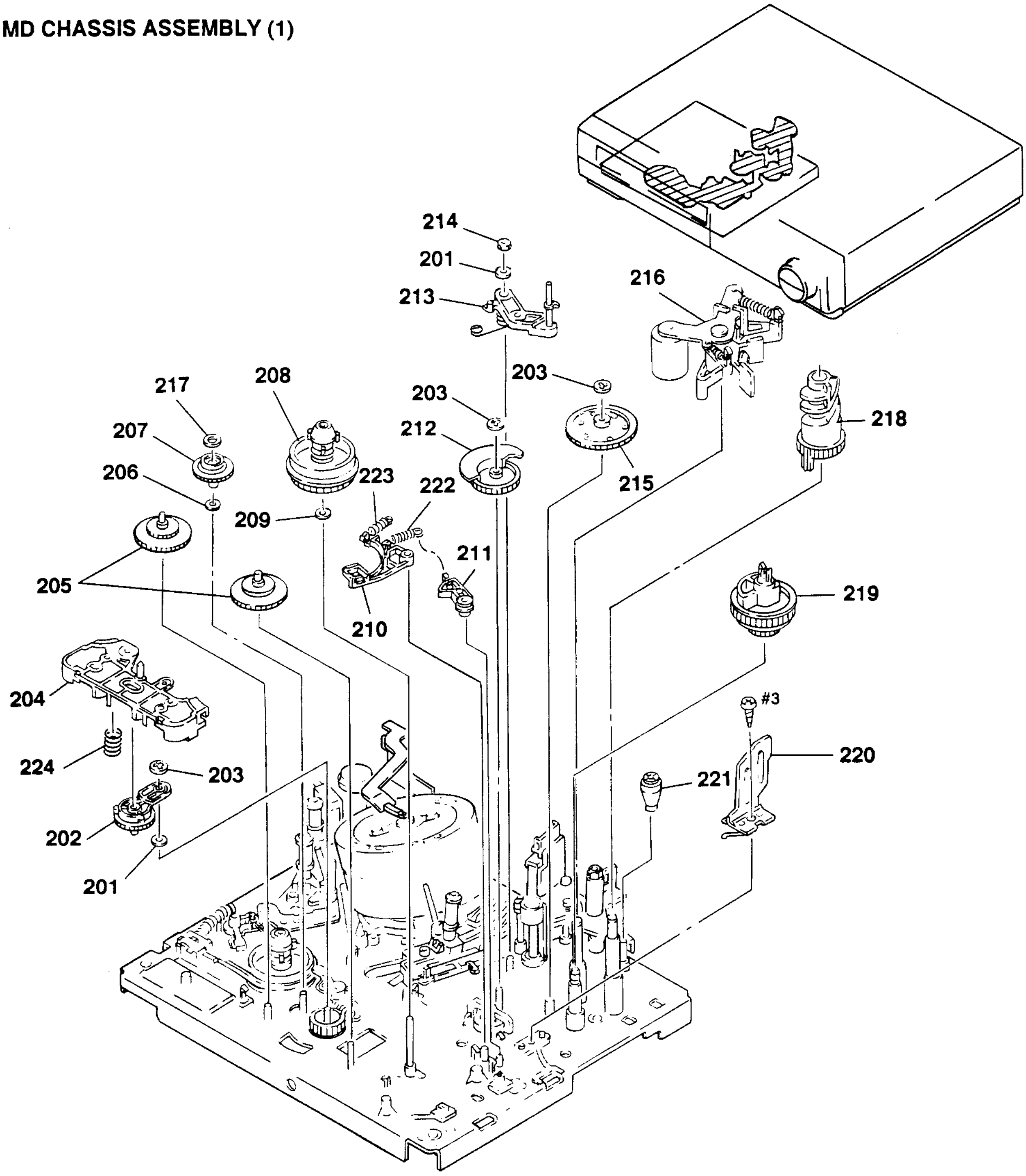
Ref. No.	Part No.	Description	Remark
111	* 1-639-419-21	TR-63 BOARD (585HF;US, CND/686HF;US, CND)	
112	* 3-942-629-01	STAY, TR (585HF;US, CND/686HF;US, CND)	
113	* A-6756-083-A	MA-82 BOARD, COMPLETE (585HF;US, CND/686HF;US, CND)	
113	* A-6756-104-A	MA-82 BOARD, COMPLETE (71HF)	
113	* A-6756-249-A	MA-82 BOARD, COMPLETE (585HF;PX/686HF;MX/589HF)	
114	1-558-924-41	CABLE, PIN	
115	* 3-741-962-01	PLATE, GROUND, JMP (EXCEPT 71HF)	
115	* 3-741-962-11	PLATE, GROUND, JMP (71HF)	
116	* A-6754-238-A	TU-130 BOARD, COMPLETE	
117	* A-6754-242-A	HF-23 BOARD, COMPLETE	
118	* A-6754-241-A	YC-112 BOARD, COMPLETE	
119	9-911-839-XX	RETAINER (B), MICROPHONE (585HF;US, CND/686HF;US, CND)	
RF001	⚠ 1-466-150-11	MODULATOR, RF (RFU-1025) (EXCEPT 71HF)	
RF001	⚠ 1-466-358-11	MODULATOR, RF (RFU-1020) (71HF)	
TU001	⚠ 1-465-239-11	TUNER, ET (BTP-2A401)	

5-4. FL CASSETTE COMPARTMENT ASSEMBLY


151
not supplied
153
152
157
158
156
155
#5
154
not supplied
M904

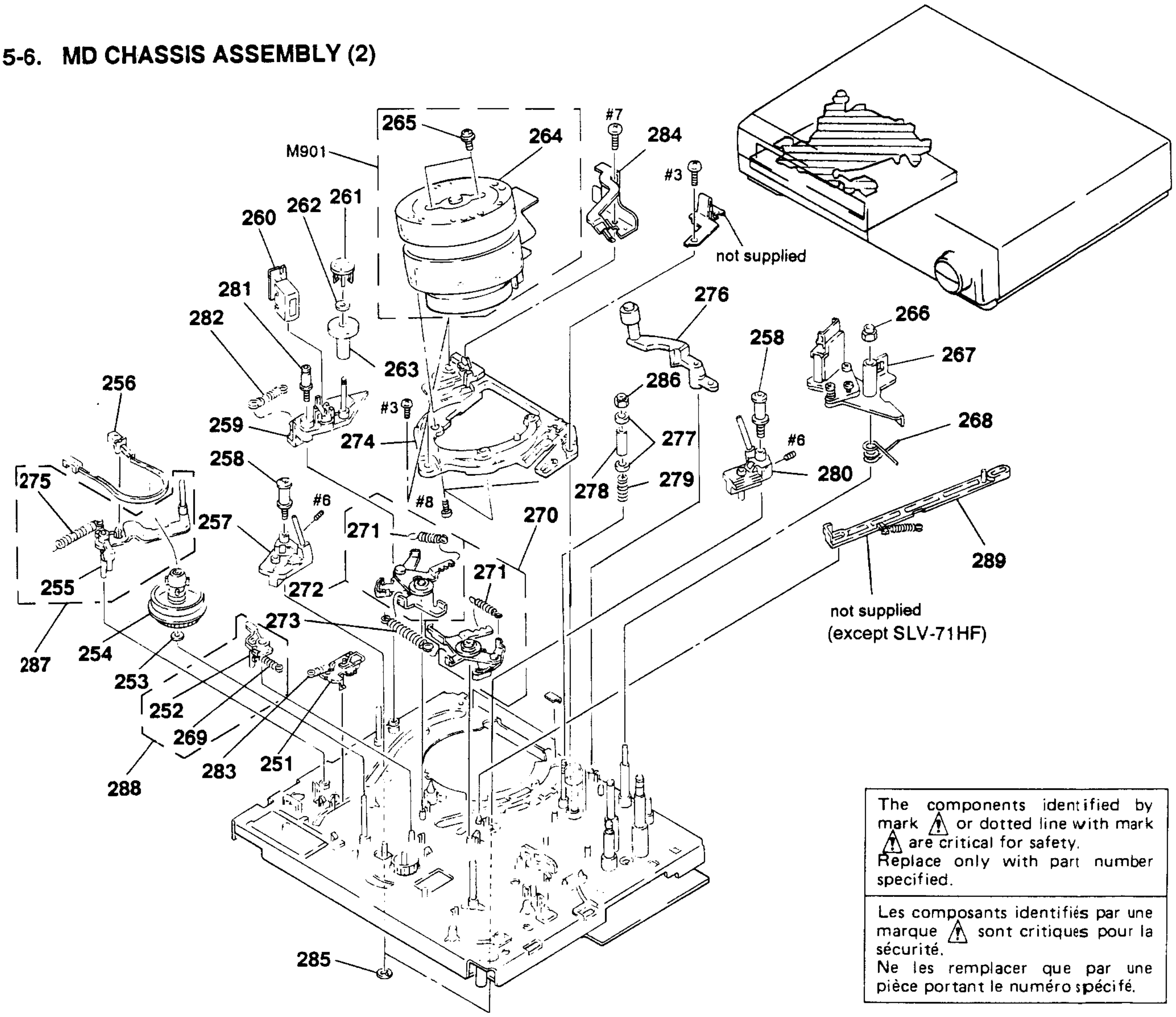
Ref. No.	Part No.	Description	Remark
151	A-6751-445-A	FL BLOCK ASSY (F45)	
152	3-736-163-01	LEVER, ERASING PROTECTION	
153	3-739-687-01	SPRING, TENSION	
154	X-3727-775-2	GEAR (RIGHT) ASSY, MIDWAY	
155	3-696-510-01	WASHER (3), STOPPER	
156	3-736-164-01	WHEEL (FL), WORM	
157	3-736-100-01	GEAR (FL), WORM	
158	3-716-144-02	RETAINER, WORM	
M904	X-3727-784-1	MOTOR ASSY (LOADING)	

5-5. MD CHASSIS ASSEMBLY (1)


214
201
213
216
217
208
203
203
212
207
218
206
223
222
215
209
205
211
219
210
204
#3
220
224
203
221
202
201

Ref. No.	Part No.	Description	Remark
201	3-701-438-11	WASHER, 2.5	
202	X-3727-776-1	ARM ASSY, PENDULUM	
203	3-669-595-00	WASHER (2), STOPPER	
204	3-736-172-02	RELEASE, LOCK, REEL	
205	X-3727-795-1	GEAR ASSY, RELAY	
206	3-736-074-01	RETAINER (SMALL), THRUST	
207	3-736-037-01	GEAR, REW	
208	X-3727-798-1	TABLE ASSY, REEL	
209	3-738-212-21	RETAINER, THRUST, REEL TABLE	
210	X-3727-764-1	BRAKE ASSY, T SOFT (71HF)	
210	X-3733-335-1	BRAKE ASSY (AT), T SOFT (EXCEPT 71HF)	
211	3-736-105-01	ARM, REV BRAKE	
212	3-736-143-01	GEAR, RVS CAM	
213	X-3729-911-1	ARM ASSY, RVS	
214	3-736-740-01	NUT (M2X0.25), NYLON	
215	3-736-116-01	GEAR, COMMUNICATION	
216	X-3727-770-1	PINCH ROLLER BLOCK ASSY	
217	3-736-069-01	RETAINER, SPRING	
218	3-736-136-01	CAM, ELEVATOR	
219	3-943-700-01	GEAR (LO), PRESS CAM	
220	A-6750-288-A	OPENNER BLOCK ASSY, LID	
221	3-738-250-01	SCREW, AC ADJUSTMENT	
222	3-736-025-01	SPRING (REV BRAKE), TENSION	
223	3-736-024-01	SPRING, TENSION	
224	3-736-020-11	SPRING, COMPRESSION	

5-6. MD CHASSIS ASSEMBLY (2)

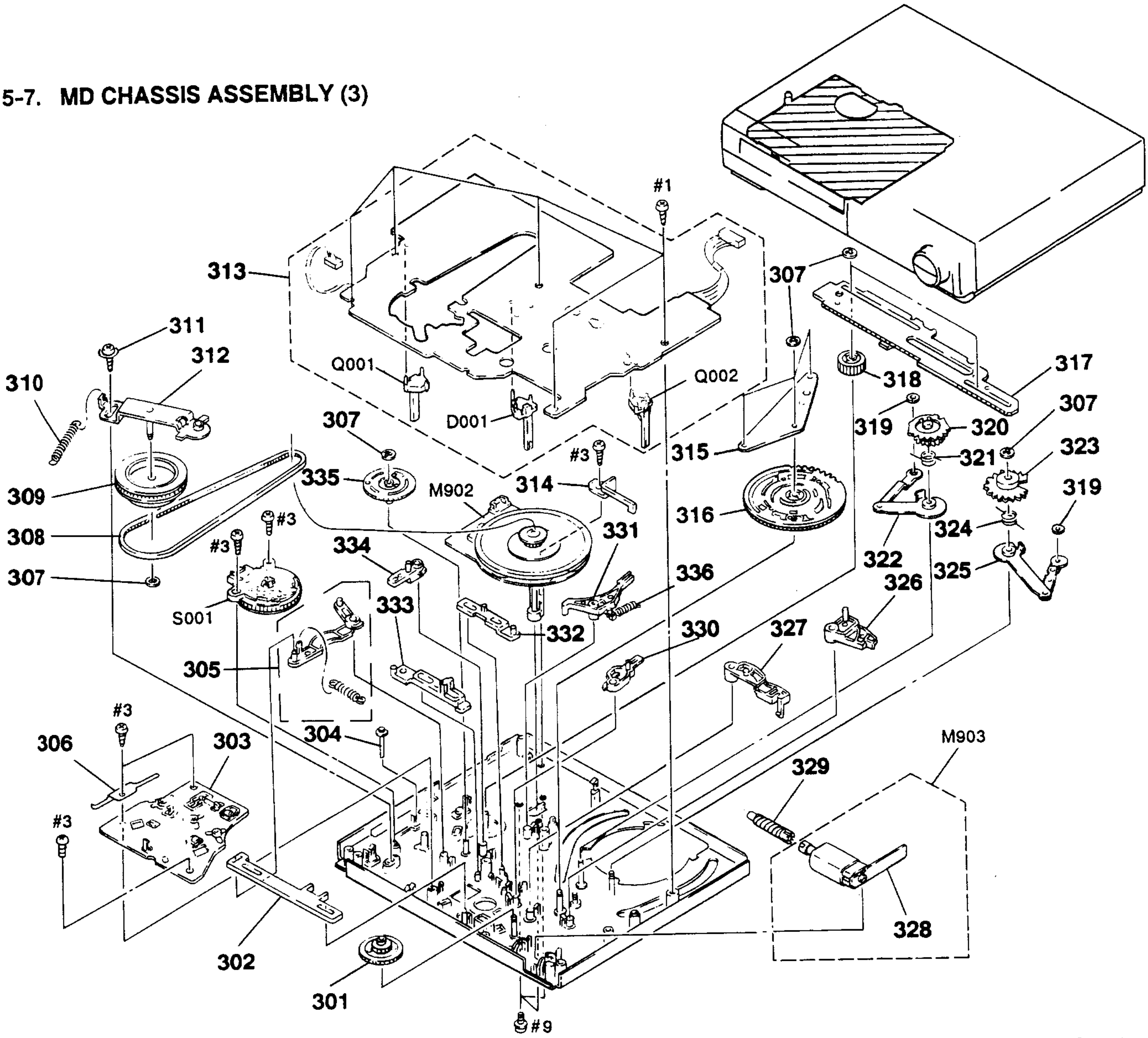


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifé.

Ref. No.	Part No.	Description	Remark
251	A-6759-451-A	TAKE-UP BLOCK ASSY. S (71HF)	
251	A-6759-483-A	TAKE-UP BLOCK ASSY (AT). S(EXCEPT 71HF)	
252	3-736-075-01	BRAKE. S SOFT	
253	3-738-212-21	RETAINER. THRUST. REEL TABLE	
254	X-3729-935-3	TABLE ASSY. REEL. SUPPLY	
255	3-736-151-11	ARM(POM).TENSION REGULATOR(EXCEPT 71HF)	
256	X-3727-797-1	BAND ASSY. TENSION REGULATOR	
257	X-3727-786-1	SHUTTLE (LEFT) ASSY	
258	X-3733-301-1	ROLLER ASSY. GUIDE	
259	X-3727-767-1	BASE ASSY. STABILIZER	
260	1-543-647-11	HEAD. FE	
261	3-736-082-01	RETAINER. TS THRUST	
262	3-741-925-01	RING. RETAINING	
263	X-3727-771-1	STABLILIZER ASSY. TAPE	
264	8-848-553-01	DRUM ASSY.ROTARY UPPER(DZR-28-R) (686HF)	
264	8-848-555-01	DRUM ASSY. ROTARY UPPER (DZR-37-R) (EXCEPT 686HF)	
265	2-643-205-01	SCREW (PSW) 3X8	
266	3-942-867-01	NUT. AC HEIGHT ADJUSTMENT	
267	A-6761-129-C	HEAD BLOCK ASSY. ACE	
268	3-736-042-01	SPRING. TORSION	
269	3-736-047-01	SPRING (S SOFT). TENSION	
270	X-3729-926-1	BRAKE ASSY (2). T	
271	3-738-220-01	SPRING (MAIN BRAKE 2). TENSION	
272	X-3729-925-1	BRAKE ASSY (2). S (71HF)	
272	X-3733-336-2	BRAKE ASSY (2) (AT). S (EXCEPT 71HF)	
273	3-738-221-01	SPRING (MAIN BRAKE 1). TENSION	
274	X-3727-791-2	BASE ASSY. DRUM	
275	3-733-389-11	SPRING. TENSION	
276	A-6747-267-A	ARM BLOCK ASSY (S). C ROLLER	
277	3-944-033-01	FLANGE. 7 GUIDE	
278	3-736-730-01	SLEEVE. #7 GUIDE	
279	3-749-099-01	SPRING (#7 GUIDE).COMPRESSION	
280	X-3727-787-1	SHUTTLE (RIGHT) ASSY	
281	X-3727-788-1	ROLLER ASSY. GUIDE. #2	
282	3-736-745-01	SPRING	
283	3-738-284-01	SPRING. TENSION	
284	X-3733-304-1	GROUND ASSY. SHAFT	
285	3-736-073-01	SLIDER. POLYETHYLENE	
286	3-942-866-01	NUT (M3) (3X0.5). NYLON	
287	X-3727-772-1	ARM ASSY. TENSION REGULATOR (71HF)	
288	X-3727-773-1	ARM ASSY. S SOFT BRAKE (71HF)	
289	* X-3743-517-1	LEVER ASSY (S). RELEASE. C ROLLER(71HF)	
M901	⚠ 8-848-552-11	DRUM ASSY (DZH-28A-R) (686HF)	
M901	⚠ 8-848-554-01	DRUM ASSY (DZH-37A-R) (EXCEPT 686HF)	

5-7. MD CHASSIS ASSEMBLY (3)


#1
313
307
311
312
310
Q001
Q002
317
318
319
320
307
D001
307
315
321
323
335
#3
314
M902
309
#3
316
319
308
#3
331
324
307
334
322
336
326
325
S001
333
332
330
327
305
#3
306
303
304
M903
329
#3
328
302
301
#9

Ref. No.	Part No.	Description	Remark
301	3-736-015-01	WHEEL (CAM), WORM	
302	3-736-158-01	PLATE, SLIDE, PENDULUM	
303	* A-6739-096-A	CHASSIS BLOCK ASSY, SUB	
304	3-736-091-01	PIN, SWITCH	
305	X-3729-924-1	ARM, PENDULUM FUNCTION	
306	3-741-950-01	SPRING (AT), LEAF, SC GROUND	
307	3-669-595-00	WASHER (2), STOPPER	
308	3-736-013-01	BELT, TIMING	
309	X-3727-782-1	PULLEY ASSY	
310	3-736-089-01	SPRING, TENSION	
311	3-733-386-01	SCREW (3X8), WASHER	
312	X-3727-761-1	ARM ASSY, ADJUSTMENT	
313	* A-6754-092-A	MD-49 BOARD, COMPLETE (71HF)	
313	* A-6754-278-A	MD-49 BOARD, COMPLETE (EXCEPT 71HF)	
314	3-736-744-01	RETAINER, ROTOR	
315	3-733-396-01	HOLDER, CAM GEAR	
316	3-736-176-01	GEAR, CAM	
317	3-736-177-01	PLATE, SLIDE, MODE	
318	3-733-394-01	GEAR, RVS RELAY	
319	3-736-073-01	SLIDER, POLYETHYLENE	
320	3-736-148-01	GEAR (RIGHT), THREADING	
321	3-736-092-01	SPRING (RIGHT), TORSION	
322	X-3727-777-1	ARM (RIGHT) ASSY, THREADING	

Ref. No.	Part No.	Description	Remark
323	3-736-147-01	GEAR (LEFT), THREADING	
324	3-736-040-01	SPRING (LEFT), TORSION	
325	X-3727-778-1	ARM (LEFT) ASSY, THREADING	
326	3-736-142-01	ARM, TENSION REGULATOR FUNCTION	
327	3-736-140-01	ARM, S TAKE-UP	
328	* 1-633-460-11	CA-41 BOARD	
329	3-733-395-01	GEAR (CAM), WORM	
330	3-733-397-03	ARM, BRAKE FUNCTION	
331	X-3727-769-1	BRAKE ASSY, CAP (71HF)	
331	X-3733-338-1	BRAKE ASSY (AT), CAP (EXCEPT 71HF)	
332	3-733-398-01	PLATE, SLIDE, BRAKE	
333	3-736-103-01	PLATE, SLIDE, LIMITER	
334	3-736-016-01	ARM, LIMITER FUNCTION	
335	3-736-170-01	GEAR, RKB CAM	
336	3-738-237-01	SPRING (CAP BRAKE), TENSION	
D001	8-719-985-00	DIODE GL451VS1 (LED)	
M902	8-835-394-11	MOTOR, DC U-26F (CAPSTAN)	
M903	X-3733-302-1	MOTOR ASSY, CAM	
Q001	8-729-926-31	PHOTO TRANSISTOR PT483F1S	
Q002	8-729-926-31	PHOTO TRANSISTOR PT483F1S	
S001	1-571-920-11	SWITCH, ROTARY	

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- Canadian model is abbreviated as CND, and also Mexican model is MX.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF : μF
- COILS
  uH : μH

Ref. No.	Part No.	Description	Remark
	* A-6754-240-A	CA-46 BOARD, COMPLETE	(686HF;US, CND)
		*************************************	
	* A-6754-248-A	CA-46 BOARD, COMPLETE	(585HF;US, CND)
		*************************************	
	* A-6754-264-A	CA-47 BOARD, COMPLETE	(71HF)
		*****************************	
	* A-6754-360-A	CA-47 BOARD, COMPLETE	(585HF;PX/589HF)
		**	
	* A-6754-361-A	CA-47 BOARD, COMPLETE	(686HF;MX)
		*********************************	
			(Ref. No 4,000 Series)
	* 3-941-503-01	CASE, SHIELD, AU	
		< BUZZER >	
BZ301	1-529-080-11	BUZZER, PIEZOELECTRIC	
		< CAPACITOR >	
C201	1-137-075-11	FILM 0.068uF 5% 100V	(686HF)
C202	1-162-844-11	CERAMIC 0.027uF 10% 16V	(686HF)
C203	1-161-051-00	CERAMIC 0.01uF 10% 50V	(686HF)
C204	1-164-087-11	CERAMIC 0.0015uF 10% 50V	(686HF)
C205	1-124-126-00	ELECT 47uF 20% 10V	(686HF)
C206	1-109-675-11	MICA 120PF 1% 500V	
C207	1-136-559-11	FILM 0.0047uF 10% 630V	
C207	1-136-559-11		(585HF/589HF/71HF)
C207	1-136-561-11	FILM 0.0068uF 10% 400V	(686HF)
C208	1-164-087-11	CERAMIC 0.0015uF 10% 50V	
C209	1-161-051-00	CERAMIC 0.01uF 10% 50V	
C211	1-164-085-11	CERAMIC 0.001uF 10% 50V	
C212	1-124-925-11	ELECT 2.2uF 20% 100V	
C213	1-161-044-00	CERAMIC 0.0039uF 10% 16V	
C214	1-130-481-00	MYLAR 0.0068uF 5% 50V	
C215	1-126-157-11	ELECT 10uF 20% 16V	
C216	1-126-160-11	ELECT 1uF 20% 50V	

Ref. No.	Part No.	Description	Remark
C217	1-164-085-11	CERAMIC 0.001uF 10%	50V
C218	1-124-589-11	ELECT 47uF 20%	16V
C219	1-126-160-11	ELECT 1uF 20%	50V
C220	1-164-077-11	CERAMIC 220PF 10%	50V
C221	1-124-925-11	ELECT 2.2uF 20%	100V
C222	1-130-483-00	MYLAR 0.01uF 5%	50V
C224	1-130-479-00	MYLAR 0.0047uF 5%	50V
C225	1-124-903-11	ELECT 1uF 20%	50V
C226	1-124-903-11	ELECT 1uF 20%	50V
C227	1-124-126-00	ELECT 47uF 20%	10V
C228	1-124-443-00	ELECT 100uF 20%	10V
C229	1-124-034-51	ELECT 33uF 20%	16V
C231	1-164-077-11	CERAMIC 220PF 10%	50V
C301	1-164-098-11	CERAMIC 0.047uF	12V
C302	1-124-126-00	ELECT 47uF 20%	10V
C303	1-162-849-11	CERAMIC 0.068uF 10%	16V
C304	1-124-234-00	ELECT 22uF 20%	16V
C305	1-124-443-00	ELECT 100uF 20%	10V
C307	1-161-039-00	CERAMIC 0.001uF 10%	50V
C308	1-161-047-00	CERAMIC 0.0047uF 10%	50V
C309	1-162-851-11	CERAMIC 0.1uF 10%	16V
C310	1-124-925-11	ELECT 2.2uF 20%	100V
C313	1-124-126-00	ELECT 47uF 20%	10V
C314	1-164-098-11	CERAMIC 0.047uF	12V
C315	1-161-039-00	CERAMIC 0.001uF 10%	50V
C317	1-126-163-11	ELECT 4.7uF 20%	50V
		< CONNECTOR >	
CN201	1-506-469-11	CONNECTOR 4P, MALE	
CN202	1-506-468-11	CONNECTOR 3P, MALE	
CN203	* 1-568-787-11	PIN, CONNECTOR 10P	
CN301	1-506-468-11	CONNECTOR 3P, MALE	
CN302	* 1-568-788-21	PIN, CONNECTOR 11P	
CN303	1-506-469-11	CONNECTOR 4P, MALE	

CA-46 CA-47

Ref. No.	Part No.	Description	Remark
		< DIODE >	
D303	8-719-911-19	DIODE 1SS119	
D304	8-719-911-19	DIODE 1SS119	
D305	8-719-109-97	DIODE RD6.8ES-B2	
D306	8-719-911-19	DIODE 1SS119	
D351	8-719-911-19	DIODE 1SS119	
D352	8-719-911-19	DIODE 1SS119	
D353	8-719-911-19	DIODE 1SS119	
		< IC >	
IC201	8-759-513-18	IC BA7767AS	
IC301	8-759-246-14	IC TA8823N	
IC302	8-759-822-65	IC LC6543H-4374	
		< COIL >	
L201	1-410-679-31	INDUCTOR 270uH (686HF)	
L202	1-408-247-00	INDUCTOR 33mH	
L203	1-410-120-11	INDUCTOR 1.2mH	
L204	1-410-091-31	INDUCTOR 22mH	
L301	1-408-413-00	INDUCTOR 22uH	
L302	1-408-409-00	INDUCTOR 10uH	
		< TRANSISTOR >	
Q201	8-729-140-96	TRANSISTOR 2SD774-34 (686HF)	
Q202	8-729-140-93	TRANSISTOR 2SB734-34 (686HF)	
Q203	8-729-140-96	TRANSISTOR 2SD774-34 (686HF)	
Q301	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q303	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q304	8-729-900-65	TRANSISTOR DTA144ES	
		< RESISTOR >	
R201	1-249-429-11	CARBON 10K 5% 1/4W	(686HF)
R202	⚠1-249-387-11	CARBON 3.3 5% 1/4W	(686HF)
R203	1-249-433-11	CARBON 22K 5% 1/4W	(686HF)
R204	1-249-429-11	CARBON 10K 5% 1/4W	(686HF)
R205	⚠1-249-387-11	CARBON 3.3 5% 1/4W	
R206	1-249-429-11	CARBON 10K 5% 1/4W	(585HF/589HF/71HF)
R206	1-249-433-11	CARBON 22K 5% 1/4W	(686HF)
R207	1-249-393-11	CARBON 10 5% 1/4W	
R208	1-249-433-11	CARBON 22K 5% 1/4W	
R209	1-249-409-11	CARBON 220 5% 1/4W	
R210	1-247-897-11	CARBON 560K 5% 1/4W	
R211	1-249-430-11	CARBON 12K 5% 1/4W	
R212	1-249-431-11	CARBON 15K 5% 1/4W	
R213	1-249-435-11	CARBON 33K 5% 1/4W	
R214	1-249-420-11	CARBON 1.8K 5% 1/4W	
R215	1-249-419-11	CARBON 1.5K 5% 1/4W	

Ref. No.	Part No.	Description	Remark
R216	1-247-903-00	CARBON 1M 5% 1/4W	
R217	1-249-435-11	CARBON 33K 5% 1/4W	
R218	1-249-433-11	CARBON 22K 5% 1/4W	
R219	1-249-438-11	CARBON 56K 5% 1/4W	
R221	1-249-427-11	CARBON 6.8K 5% 1/4W	
R222	1-249-429-11	CARBON 10K 5% 1/4W	
R223	1-249-433-11	CARBON 22K 5% 1/4W	
R224	1-249-415-11	CARBON 680 5% 1/4W	
R226	1-249-418-11	CARBON 1.2K 5% 1/4W	
R228	1-249-429-11	CARBON 10K 5% 1/4W	
R229	1-249-433-11	CARBON 22K 5% 1/4W	
R230	1-249-419-11	CARBON 1.5K 5% 1/4W	
R301	1-249-439-11	CARBON 68K 5% 1/4W	
R302	1-249-441-11	CARBON 100K 5% 1/4W	
R303	1-249-441-11	CARBON 100K 5% 1/4W	
R305	1-249-435-11	CARBON 33K 5% 1/4W	
R306	1-249-411-11	CARBON 330 5% 1/4W	
R307	1-249-425-11	CARBON 4.7K 5% 1/4W	
R308	1-249-417-11	CARBON 1K 5% 1/4W	
R309	1-249-429-11	CARBON 10K 5% 1/4W	
R310	1-249-429-11	CARBON 10K 5% 1/4W	
R311	1-249-425-11	CARBON 4.7K 5% 1/4W	
R313	1-249-433-11	CARBON 22K 5% 1/4W	
R314	1-249-437-11	CARBON 47K 5% 1/4W	
R315	1-249-437-11	CARBON 47K 5% 1/4W	
R316	1-249-433-11	CARBON 22K 5% 1/4W	
R317	1-249-413-11	CARBON 470 5% 1/4W	
R318	1-249-425-11	CARBON 4.7K 5% 1/4W	
R319	1-249-429-11	CARBON 10K 5% 1/4W	
R320	1-249-417-11	CARBON 1K 5% 1/4W	
R356	1-249-429-11	CARBON 10K 5% 1/4W	
R357	1-247-901-11	CARBON 820K 5% 1/4W	
		< VARIABLE RESISTOR >	
RV201	1-238-021-11	RES, ADJ, CARBON 220K	
		< TRANSFORMER >	
T201	1-406-349-11	TRANSFORMER, OSCILLATION (686HF)	
T202	1-433-330-11	TRANSFORMER, BIAS OSCILLATION (585HF/589HF/71HF)	
T202	1-433-352-11	TRANSFORMER, BIAS OSCILLATION (686HF)	
		< VIBRATOR >	
X301	1-577-358-21	VIBRATOR, CERAMIC (4MHz)	

****

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifé.

Ref. No.	Part No.	Description			Remark
*	A-6754-242-A	HF-23 BOARD, COMPLETE			
		**********************			
		(Ref. No 5,000 Series)			
	3-738-216-01	COVER, VOLUME			

< CAPACITOR >

Ref. No.	Part No.	Description			Remark
C204	1-126-101-11	ELECT	100uF	20%	16V
C205	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C206	1-124-925-11	ELECT	2.2uF	20%	100V
C207	1-124-477-11	ELECT	47uF	20%	25V
C208	1-126-163-11	ELECT	4.7uF	20%	50V
C209	1-126-096-11	ELECT	10uF	20%	35V
C210	1-124-477-11	ELECT	47uF	20%	25V
C211	1-124-925-11	ELECT	2.2uF	20%	100V
C212	1-124-477-11	ELECT	47uF	20%	25V
C213	1-124-477-11	ELECT	47uF	20%	25V
C214	1-124-477-11	ELECT	47uF	20%	25V
C215	1-126-096-11	ELECT	10uF	20%	35V
C216	1-126-163-11	ELECT	4.7uF	20%	50V
C217	1-124-925-11	ELECT	2.2uF	20%	100V
C218	1-124-925-11	ELECT	2.2uF	20%	100V
C219	1-126-157-11	ELECT	10uF	20%	16V
C220	1-126-157-11	ELECT	10uF	20%	16V
C221	1-130-483-00	MYLAR	0.01uF	5%	50V
C222	1-126-163-11	ELECT	4.7uF	20%	50V
C223	1-124-120-11	ELECT	220uF	20%	25V
C224	1-124-925-11	ELECT	2.2uF	20%	100V
C225	1-130-487-00	MYLAR	0.022uF	5%	50V
C226	1-126-096-11	ELECT	10uF	20%	35V
C227	1-124-234-00	ELECT	22uF	20%	16V
C228	1-130-473-00	MYLAR	0.0015uF	5%	50V
C229	1-130-475-00	MYLAR	0.0022uF	5%	50V
C230	1-130-475-00	MYLAR	0.0022uF	5%	50V
C231	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C232	1-126-101-11	ELECT	100uF	20%	16V
C233	1-162-286-31	CERAMIC	220PF	10%	50V
C234	1-124-903-11	ELECT	1uF	20%	50V
C235	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C236	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C237	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C238	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C239	1-130-475-00	MYLAR	0.0022uF	5%	50V
C240	1-130-475-00	MYLAR	0.0022uF	5%	50V
C241	1-130-473-00	MYLAR	0.0015uF	5%	50V
C242	1-124-234-00	ELECT	22uF	20%	16V
C243	1-124-925-11	ELECT	2.2uF	20%	100V
C244	1-126-096-11	ELECT	10uF	20%	35V
C245	1-130-487-00	MYLAR	0.022uF	5%	50V
C246	1-124-925-11	ELECT	2.2uF	20%	100V
C247	1-124-120-11	ELECT	220uF	20%	25V
C248	1-126-163-11	ELECT	4.7uF	20%	50V
C249	1-130-483-00	MYLAR	0.01uF	5%	50V
C250	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C299	1-163-089-00	CERAMIC CHIP	6PF		50V

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CN201	1-580-848-11	SOCKET, CONNECTOR (PC BOARD)	20P
CN202	1-580-855-11	SOCKET, CONNECTOR (PC BOARD)	14P

< DIODE >

Ref. No.	Part No.	Description	
D201	8-719-104-34	DIODE	1S2836

< IC >

Ref. No.	Part No.	Description	
IC201	8-759-421-08	IC	AN3937FBP
IC205	⚠8-759-938-15	IC	BA178M05

< JUMPER RESISTOR >

Ref. No.	Part No.	Description			Remark
JR201	1-216-295-00	METAL CHIP	0	5%	1/10W
JR202	1-216-295-00	METAL CHIP	0	5%	1/10W
JR203	1-216-296-00	METAL CHIP	0	5%	1/8W
JR208	1-216-295-00	METAL CHIP	0	5%	1/10W
JR209	1-216-296-00	METAL CHIP	0	5%	1/8W
JR211	1-216-296-00	METAL CHIP	0	5%	1/8W
JR212	1-216-296-00	METAL CHIP	0	5%	1/8W
JR214	1-216-295-00	METAL CHIP	0	5%	1/10W
JR215	1-216-296-00	METAL CHIP	0	5%	1/8W
JR217	1-216-295-00	METAL CHIP	0	5%	1/10W
JR218	1-216-296-00	METAL CHIP	0	5%	1/8W
JR219	1-216-296-00	METAL CHIP	0	5%	1/8W
JR221	1-216-296-00	METAL CHIP	0	5%	1/8W
JR222	1-216-296-00	METAL CHIP	0	5%	1/8W
JR224	1-216-296-00	METAL CHIP	0	5%	1/8W
JR225	1-216-296-00	METAL CHIP	0	5%	1/8W

< RESISTOR >

Ref. No.	Part No.	Description			Remark
R206	1-247-710-11	CARBON	560	5%	1/4W
R207	1-249-441-11	CARBON	100K	5%	1/4W
R208	1-249-437-11	CARBON	47K	5%	1/4W
R209	1-247-891-00	CARBON	330K	5%	1/4W
R210	1-247-710-11	CARBON	560	5%	1/4W
R211	1-249-441-11	CARBON	100K	5%	1/4W
R212	1-216-049-00	METAL CHIP	1K	5%	1/10W
R213	1-216-113-00	METAL CHIP	470K	5%	1/10W
R214	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R215	1-249-429-11	CARBON	10K	5%	1/4W

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
R216	1-249-417-11	CARBON	1K	5%	1/4W
R218	1-216-679-11	METAL CHIP	15K	0.5%	1/10W
R220	1-216-208-00	METAL GLAZE	2.7K	5%	1/8W
R221	1-216-049-00	METAL CHIP	1K	5%	1/10W
R222	1-216-192-00	METAL CHIP	560	5%	1/8W
R223	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R224	1-216-083-00	METAL CHIP	27K	5%	1/10W
R226	1-249-429-11	CARBON	10K	5%	1/4W
R227	1-249-417-11	CARBON	1K	5%	1/4W
R228	1-216-109-00	METAL CHIP	330K	5%	1/10W

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description
RV201	1-241-080-11	RES, ADJ, CARBON 10K
RV202	1-230-523-11	RES, ADJ, METAL 10K
RV204	1-241-080-11	RES, ADJ, CARBON 10K
RV205	1-230-522-11	RES, ADJ, METAL 4.7K
RV206	1-241-080-11	RES, ADJ, CARBON 10K

****

* A-6756-083-A MA-82 BOARD, COMPLETE
(585HF;US,CND/686HF;US,CND)

****

* A-6756-104-A MA-82 BOARD, COMPLETE (71HF)

****

* A-6756-249-A MA-82 BOARD, COMPLETE
(585HF;PX/589HF/686HF;MX)

****

(Ref.No 3,000 Series)

1-558-924-41 CABLE, PIN

< CAPACITOR >

Ref. No.	Part No.	Description			Remark
C005	1-161-051-00	CERAMIC	0.01uF	10%	150V
C006	1-126-101-11	ELECT	100uF	20%	16V
C007	1-124-248-00	ELECT	22uF	20%	35V
C008	1-164-096-11	CERAMIC	0.01uF		50V
C013	1-162-306-11	CERAMIC	0.01uF	20%	16V
C016	1-164-081-11	CERAMIC	470PF	10%	50V
C103	1-124-248-00	ELECT	22uF	20%	35V
C104	1-124-248-00	ELECT	22uF	20%	35V
C110	1-124-248-00	ELECT	22uF	20%	35V
C111	1-124-248-00	ELECT	22uF	20%	35V
C112	1-164-096-11	CERAMIC	0.01uF		50V
C151	1-124-472-11	ELECT	470uF	20%	10V
C152	1-124-443-00	ELECT	100uF	20%	10V
C153	1-124-477-11	ELECT	47uF	20%	25V
C154	1-124-589-11	ELECT	47uF	20%	16V
C155	1-124-589-11	ELECT	47uF	20%	16V
C156	1-124-589-11	ELECT	47uF	20%	16V
C157	1-124-589-11	ELECT	47uF	20%	16V
C158	1-124-589-11	ELECT	47uF	20%	16V
C159	1-124-589-11	ELECT	47uF	20%	16V
C160	1-124-589-11	ELECT	47uF	20%	16V
C161	1-124-584-00	ELECT	100uF	20%	10V
C162	1-124-584-00	ELECT	100uF	20%	10V
C163	1-124-584-00	ELECT	100uF	20%	10V
C164	1-126-163-11	ELECT	4.7uF	20%	50V
C165	1-126-163-11	ELECT	4.7uF	20%	50V
C166	1-126-163-11	ELECT	4.7uF	20%	50V
C167	1-126-163-11	ELECT	4.7uF	20%	50V
C170	1-126-160-11	ELECT	1uF	20%	50V
C171	1-164-077-11	CERAMIC	220PF	10%	50V
C172	1-126-160-11	ELECT	1uF	20%	50V
C173	1-164-077-11	CERAMIC	220PF	10%	50V
C174	1-164-096-11	CERAMIC	0.01uF		50V
C175	1-164-096-11	CERAMIC	0.01uF		50V
C176	1-164-098-11	CERAMIC	0.047uF		12V
C177	1-164-096-11	CERAMIC	0.01uF		50V
C189	1-164-096-11	CERAMIC	0.01uF		50V
C190	1-124-477-11	ELECT	47uF	20%	25V
C191	1-162-213-31	CERAMIC	39PF	5%	50V
C192	1-162-213-31	CERAMIC	39PF	5%	50V
C401	1-130-489-00	MYLAR	0.033uF	5%	50V
C402	1-126-233-11	ELECT	22uF	20%	50V
C403	1-164-096-11	CERAMIC	0.01uF		50V
C404	1-124-925-11	ELECT	2.2uF	20%	100V
C405	1-124-907-11	ELECT	10uF	20%	50V
C406	1-126-233-11	ELECT	22uF	20%	50V
C407	1-130-487-00	MYLAR	0.022uF	5%	50V
C431	1-161-051-00	CERAMIC	0.01uF	10%	50V
C432	1-164-058-11	CERAMIC	33PF	5%	50V
C433	1-164-081-11	CERAMIC	470PF	10%	50V
C434	1-164-068-11	CERAMIC	82PF	5%	50V
C435	1-161-051-00	CERAMIC	0.01uF	10%	50V
C436	1-161-772-11	CERAMIC	0.1uF	10%	25V
C437	1-126-233-11	ELECT	22uF	20%	50V
C438	1-161-772-11	CERAMIC	0.1uF	10%	25V
C439	1-130-491-00	MYLAR	0.047uF	5%	50V
C441	1-130-493-00	MYLAR	0.068uF	5%	50V
C442	1-126-101-11	ELECT	100uF	20%	16V
C490	1-162-306-11	CERAMIC	0.01uF	20%	16V
C501	1-124-443-00	ELECT	100uF	20%	10V
C502	1-164-159-11	CERAMIC	0.1uF		50V
C503	1-164-096-11	CERAMIC	0.01uF		50V
C504	1-164-052-11	CERAMIC	18PF	5%	50V
C505	1-164-052-11	CERAMIC	18PF	5%	50V
C506	1-164-077-11	CERAMIC	220PF	10%	50V
C507	1-164-096-11	CERAMIC	0.01uF		50V
C508	1-164-096-11	CERAMIC	0.01uF		50V
C520	1-164-096-11	CERAMIC	0.01uF		50V

Ref. No.	Part No.	Description			Remark
C521	1-164-088-11	CERAMIC	0.001uF		50V
C531	1-124-478-11	ELECT	100uF	20%	25V
C602	1-102-962-00	CERAMIC	30PF	5%	50V
C607	1-124-126-00	ELECT	47uF	20%	10V
C608	1-164-096-11	CERAMIC	0.01uF		50V
C611	1-164-096-11	CERAMIC	0.01uF		50V
C612	1-164-096-11	CERAMIC	0.01uF		50V
C613	1-124-126-00	ELECT	47uF	20%	10V
C614	1-164-023-11	CERAMIC	15PF	5%	50V
C615	1-164-023-11	CERAMIC	15PF	5%	50V
C617	1-102-958-00	CERAMIC	20PF	5%	50V
C618	1-130-471-00	MYLAR	0.001uF	5%	50V
C619	1-161-047-00	CERAMIC	0.0047uF	10%	50V
C621	1-162-306-11	CERAMIC	0.01uF	20%	16V
C622	1-124-903-11	ELECT	1uF	20%	50V
C623	1-124-126-00	ELECT	47uF	20%	10V
C625	1-130-473-00	MYLAR	0.0015uF	5%	50V
C626	1-164-096-11	CERAMIC	0.01uF		50V
C627	1-164-077-11	CERAMIC	220PF	10%	50V
C628	1-124-464-11	ELECT	0.22uF	20%	50V
C629	1-124-589-11	ELECT	47uF	20%	16V
C630	1-124-927-11	ELECT	4.7uF	20%	100V
C631	1-124-482-11	ELECT	33uF	20%	35V
C632	1-130-473-00	MYLAR	0.0015uF	5%	50V
C634	1-130-471-00	MYLAR	0.001uF	5%	50V
C635	1-162-294-31	CERAMIC	0.001uF	10%	50V
C690	1-102-976-00	CERAMIC	180PF	5%	50V
C690	1-162-285-31	CERAMIC	180PF	10%	50V
C691	1-162-196-31	CERAMIC	5.6PF	10%	50V
C692	1-162-203-31	CERAMIC	15PF	5%	50V
C699	1-162-211-31	CERAMIC	33PF	5%	50V

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CN001	1-569-338-11	CONNECTOR, BOARD TO BOARD 19P	
CN002	1-569-338-11	CONNECTOR, BOARD TO BOARD 19P	
CN003	1-506-473-11	CONNECTOR 8P, MALE	
CN004	1-569-341-11	CONNECTOR, BOARD TO BOARD 19P	
CN006	* 1-506-744-11	PIN, CONNECTOR 15P	
CN007	* 1-506-744-11	PIN, CONNECTOR 15P	
CN008	1-580-847-11	CONNECTOR, BOARD TO BOARD 15P	
CN009	1-580-847-11	CONNECTOR, BOARD TO BOARD 15P	
CN010	1-569-338-11	CONNECTOR, BOARD TO BOARD 19P	
CN011	* 1-569-797-11	PIN, CONNECTOR (PC BOARD) 12P	
CN012	* 1-569-797-11	PIN, CONNECTOR (PC BOARD) 12P	
CN014	* 1-568-787-11	PIN, CONNECTOR 10P	
CN015	1-580-849-11	PIN, CONNECTOR (PC BOARD) 20P	
CN016	1-580-856-11	PIN, CONNECTOR (PC BOARD) 14P	
CN017	1-506-469-11	CONNECTOR 4P, MALE	
CN018	* 1-568-788-21	PIN, CONNECTOR 11P	
CN900	* 1-560-890-00	PIN, CONNECTOR 2P	
CNJ001	1-507-562-00	JACK (CONTROL S IN)	
CNJ002	1-565-320-71	JACK, PIN 6P (VIDEO/AUDIO OUT)	

< DIODE >

Ref. No.	Part No.	Description		Remark
D151	8-719-109-97	DIODE	RD6.8ES-B2	
D152	8-719-109-97	DIODE	RD6.8ES-B2	
D160	8-719-911-19	DIODE	1SS119	
D161	8-719-911-19	DIODE	1SS119	
D162	8-719-911-19	DIODE	1SS119	
D163	8-719-911-19	DIODE	1SS119	
D401	8-719-101-50	DIODE	RD5.1E-L2	
D405	8-719-101-47	DIODE	RD4.7EL2	
D502	8-719-911-19	DIODE	1SS119	
D505	8-719-911-19	DIODE	1SS119	
D601	8-719-911-19	DIODE	1SS119	
D603	8-719-911-19	DIODE	1SS119	
D604	8-719-911-19	DIODE	1SS119	
D605	8-719-911-19	DIODE	1SS119	
D606	8-719-911-19	DIODE	1SS119	
D608	8-719-911-19	DIODE	1SS119	
D609	8-719-109-97	DIODE	RD6.8ES-B2	
D610	8-719-109-97	DIODE	RD6.8ES-B2	
D611	8-719-200-82	DIODE	11ES2	

< FERRITE BEAD INDUCTOR >

Ref. No.	Part No.	Description	Remark
FB101	1-410-397-21	FERRITE BEAD INDUCTOR	
FB601	1-410-397-21	FERRITE BEAD INDUCTOR	
FB602	1-410-396-41	INDUCTOR 0.45UH	

< IC >

Ref. No.	Part No.	Description		Remark
IC101	8-759-804-80	IC	LA7235	
IC102	8-759-927-56	IC	BA7021	
IC103	8-759-961-38	IC	BA6138	
IC401	8-759-008-71	IC	LM324N	
IC402	8-759-113-18	IC	uPC4574C	
IC403	⚠ 8-759-983-45	IC	BA6238A	
IC501	8-752-819-83	IC	CXP80624-208Q	
IC601	8-759-636-15	IC	M50555-054SP	
IC602	8-759-115-55	IC	uPC1555C	

< COIL >

Ref. No.	Part No.	Description	Remark
L101	1-408-421-00	INDUCTOR 100uH	
L102	1-408-409-00	INDUCTOR 10uH	
L103	1-408-409-00	INDUCTOR 10uH	
L103	1-410-521-11	INDUCTOR 100uH	
L110	1-410-498-11	INDUCTOR 1.2uH	
L111	1-410-498-11	INDUCTOR 1.2uH	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

MA-82

Ref. No.	Part No.	Description	Remark
L112	1-410-498-11	INDUCTOR 1.2uH	
L151	1-408-409-00	INDUCTOR 10uH	
L431	1-408-413-00	INDUCTOR 22uH	
L432	1-408-413-00	INDUCTOR 22uH	
L501	1-408-409-00	INDUCTOR 10uH	
L602	1-412-470-21	INDUCTOR 22uH	
L603	1-408-421-00	INDUCTOR 100uH	
L604	1-408-421-00	INDUCTOR 100uH	
L605	1-408-416-00	INDUCTOR 39uH	
L606	1-408-414-00	INDUCTOR 27uH	
L607	1-408-397-00	INDUCTOR 1uH	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q151	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q152	8-729-900-89	TRANSISTOR DTC144ES	
Q153	8-729-900-89	TRANSISTOR DTC144ES	
Q154	8-729-900-89	TRANSISTOR DTC144ES	
Q155	8-729-102-14	TRANSISTOR 2SD1012F	
Q156	8-729-102-14	TRANSISTOR 2SD1012F	
Q157	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q401	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q402	8-729-900-63	TRANSISTOR DTA124ES	
Q403	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q404	8-729-601-47	TRANSISTOR 2SK381TP-A	
Q431	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q432	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q433	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q434	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q439	8-729-601-47	TRANSISTOR 2SK381-B	
Q501	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q601	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q602	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q603	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q604	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q605	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q606	8-729-900-65	TRANSISTOR DTA144ES	
Q607	8-729-900-89	TRANSISTOR DTC144ES	
Q608	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q609	8-729-119-76	TRANSISTOR 2SA1175-HFE	

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R101	1-215-435-00	METAL 3.9K 1% 1/6W	
R102	1-215-435-00	METAL 3.9K 1% 1/6W	
R103	1-215-435-00	METAL 3.9K 1% 1/6W	
R104	1-215-435-00	METAL 3.9K 1% 1/6W	
R106	1-249-422-11	CARBON 2.7K 5% 1/4W	
R107	1-249-422-11	CARBON 2.7K 5% 1/4W	
R123	1-249-417-11	CARBON 1K 5% 1/4W	

Ref. No.	Part No.	Description	Remark
R131	1-249-429-11	CARBON 10K 5% 1/4W	
R132	1-249-429-11	CARBON 10K 5% 1/4W	
R151	1-249-406-11	CARBON 120 5% 1/4W	
R152	1-249-406-11	CARBON 120 5% 1/4W	
R153	1-247-804-11	CARBON 75 5% 1/4W	
R154	1-249-404-00	CARBON 82 5% 1/4W	
R161	1-249-405-11	CARBON 100 5% 1/4W	
R164	1-249-426-11	CARBON 5.6K 5% 1/4W	
R165	1-249-421-11	CARBON 2.2K 5% 1/4W	
R166	1-249-441-11	CARBON 100K 5% 1/4W	
R167	1-249-423-11	CARBON 3.3K 5% 1/4W	
R168	1-249-424-11	CARBON 3.9K 5% 1/4W	
R169	1-249-423-11	CARBON 3.3K 5% 1/4W	
R170	1-249-424-11	CARBON 3.9K 5% 1/4W	
R171	1-247-891-00	CARBON 330K 5% 1/4W	
R172	1-247-891-00	CARBON 330K 5% 1/4W	
R173	1-249-429-11	CARBON 10K 5% 1/4W	
R174	1-249-429-11	CARBON 10K 5% 1/4W	
R179	1-249-417-11	CARBON 1K 5% 1/4W	
R180	1-249-417-11	CARBON 1K 5% 1/4W	
R181	1-249-422-11	CARBON 2.7K 5% 1/4W	
R182	1-249-422-11	CARBON 2.7K 5% 1/4W	
R185	1-249-421-11	CARBON 2.2K 5% 1/4W	
R186	1-249-421-11	CARBON 2.2K 5% 1/4W	
R190	1-249-417-11	CARBON 1K 5% 1/4W	
R191	1-249-417-11	CARBON 1K 5% 1/4W	
R192	1-249-429-11	CARBON 10K 5% 1/4W	
R193	1-249-429-11	CARBON 10K 5% 1/4W	
R194	1-249-429-11	CARBON 10K 5% 1/4W	
R195	1-249-417-11	CARBON 1K 5% 1/4W	
R196	1-249-429-11	CARBON 10K 5% 1/4W	
R197	1-249-429-11	CARBON 10K 5% 1/4W	
R198	1-249-417-11	CARBON 1K 5% 1/4W	
R401	1-249-432-11	CARBON 18K 5% 1/4W	
R402	1-249-431-11	CARBON 15K 5% 1/4W	
R403	1-249-417-11	CARBON 1K 5% 1/4W	
R404	1-249-436-11	CARBON 39K 5% 1/4W	
R405	1-249-433-11	CARBON 22K 5% 1/4W	
R406	1-249-429-11	CARBON 10K 5% 1/4W	
R407	1-249-427-11	CARBON 6.8K 5% 1/4W	
R408	1-249-417-11	CARBON 1K 5% 1/4W	
R410	1-249-429-11	CARBON 10K 5% 1/4W	
R411	1-249-429-11	CARBON 10K 5% 1/4W	
R412	1-247-885-00	CARBON 180K 5% 1/4W	
R413	1-249-429-11	CARBON 10K 5% 1/4W	
R414	1-249-430-11	CARBON 12K 5% 1/4W	
R415	1-249-417-11	CARBON 1K 5% 1/4W	
R416	1-249-423-11	CARBON 3.3K 5% 1/4W	

Ref. No.	Part No.	Description				Remark
R417	1-249-441-11	CARBON	100K	5%	1/4W	
R420	1-247-885-00	CARBON	180K	5%	1/4W	
R421	1-249-429-11	CARBON	10K	5%	1/4W	
R422	1-249-429-11	CARBON	10K	5%	1/4W	
R423	1-249-429-11	CARBON	10K	5%	1/4W	
R424	1-249-415-11	CARBON	680	5%	1/4W	
R425	1-249-415-11	CARBON	680	5%	1/4W	
R431	1-249-430-11	CARBON	12K	5%	1/4W	
R432	1-249-431-11	CARBON	15K	5%	1/4W	
R433	1-249-417-11	CARBON	1K	5%	1/4W	
R434	1-249-417-11	CARBON	1K	5%	1/4W	
R435	1-249-418-11	CARBON	1.2K	5%	1/4W	
R436	1-249-417-11	CARBON	1K	5%	1/4W	
R437	1-247-897-11	CARBON	560K	5%	1/4W	
R438	1-249-421-11	CARBON	2.2K	5%	1/4W	
R439	1-249-421-11	CARBON	2.2K	5%	1/4W	
R440	1-249-428-11	CARBON	8.2K	5%	1/4W	
R441	1-249-402-11	CARBON	56	5%	1/4W	
R442	1-249-413-11	CARBON	470	5%	1/4W	
R443	1-249-427-11	CARBON	6.8K	5%	1/4W	
R444	1-249-437-11	CARBON	47K	5%	1/4W	
R445	1-249-435-11	CARBON	33K	5%	1/4W	
R446	1-249-429-11	CARBON	10K	5%	1/4W	
R447	1-249-435-11	CARBON	33K	5%	1/4W	
R450	1-249-417-11	CARBON	1K	5%	1/4W	
R451	1-249-434-11	CARBON	27K	5%	1/4W	
R461	1-249-429-11	CARBON	10K	5%	1/4W	
R463	⚠ 1-249-410-11	CARBON	270	5%	1/4W	
R464	1-249-441-11	CARBON	100K	5%	1/4W	
R475	1-249-425-11	CARBON	4.7K	5%	1/4W	
R490	1-249-417-11	CARBON	1K	5%	1/4W	
R491	1-249-413-11	CARBON	470	5%	1/4W	
R492	1-249-409-11	CARBON	220	5%	1/4W	
R493	1-249-429-11	CARBON	10K	5%	1/4W	
R494	1-249-429-11	CARBON	10K	5%	1/4W	
R495	1-249-429-11	CARBON	10K	5%	1/4W	
R515	1-249-411-11	CARBON	330	5%	1/4W	
R531	1-249-417-11	CARBON	1K	5%	1/4W	
R548	1-249-429-11	CARBON	10K	5%	1/4W	
R556	1-249-437-11	CARBON	47K	5%	1/4W	
R557	1-249-437-11	CARBON	47K	5%	1/4W	
R558	1-249-437-11	CARBON	47K	5%	1/4W	
R559	1-249-437-11	CARBON	47K	5%	1/4W	
R560	1-249-437-11	CARBON	47K	5%	1/4W	
R561	1-249-437-11	CARBON	47K	5%	1/4W	
R562	1-249-429-11	CARBON	10K	5%	1/4W	
R563	1-249-437-11	CARBON	47K	5%	1/4W	
R564	1-249-437-11	CARBON	47K	5%	1/4W	
R565	1-249-437-11	CARBON	47K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R567	1-249-425-11	CARBON	4.7K	5%	1/4W	
R568	1-249-425-11	CARBON	4.7K	5%	1/4W	
R570	1-249-437-11	CARBON	47K	5%	1/4W	
R571	1-249-422-11	CARBON	2.7K	5%	1/4W	
R572	1-249-429-11	CARBON	10K	5%	1/4W	
R573	1-249-428-11	CARBON	8.2K	5%	1/4W	
R574	1-249-429-11	CARBON	10K	5%	1/4W	
R575	1-249-421-11	CARBON	2.2K	5%	1/4W	
R575	1-249-429-11	CARBON	10K	5%	1/4W	
R590	1-249-427-11	CARBON	6.8K	5%	1/4W	
R618	1-249-418-11	CARBON	1.2K	5%	1/4W	
R619	1-249-413-11	CARBON	470	5%	1/4W	
R622	1-249-414-11	CARBON	560	5%	1/4W	
R623	1-249-420-11	CARBON	1.8K	5%	1/4W	
R624	1-249-422-11	CARBON	2.7K	5%	1/4W	
R625	1-249-421-11	CARBON	2.2K	5%	1/4W	
R630	1-249-422-11	CARBON	2.7K	5%	1/4W	
R631	1-249-423-11	CARBON	3.3K	5%	1/4W	
R632	1-249-414-11	CARBON	560	5%	1/4W	
R633	1-249-415-11	CARBON	680	5%	1/4W	
R634	1-249-422-11	CARBON	2.7K	5%	1/4W	
R635	1-249-424-11	CARBON	3.9K	5%	1/4W	
R636	1-249-422-11	CARBON	2.7K	5%	1/4W	
R637	1-249-425-11	CARBON	4.7K	5%	1/4W	
R638	1-249-424-11	CARBON	3.9K	5%	1/4W	
R639	1-247-903-00	CARBON	1M	5%	1/4W	
R640	1-249-419-11	CARBON	1.5K	5%	1/4W	
R641	1-249-429-11	CARBON	10K	5%	1/4W	
R642	1-215-453-00	METAL	22K	1%	1/6W	
R643	1-249-429-11	CARBON	10K	5%	1/4W	
R644	1-249-423-11	CARBON	3.3K	5%	1/4W	
R645	1-249-425-11	CARBON	4.7K	5%	1/4W	
R646	1-249-421-11	CARBON	2.2K	5%	1/4W	
R647	1-249-429-11	CARBON	10K	5%	1/4W	
R648	1-249-439-11	CARBON	68K	5%	1/4W	
R649	1-249-437-11	CARBON	47K	5%	1/4W	
R650	1-249-441-11	CARBON	100K	5%	1/4W	
R651	1-249-421-11	CARBON	2.2K	5%	1/4W	
R652	1-249-429-11	CARBON	10K	5%	1/4W	
R653	1-249-431-11	CARBON	15K	5%	1/4W	
R654	1-249-435-11	CARBON	33K	5%	1/4W	
R655	1-249-413-11	CARBON	470	5%	1/4W	
R656	1-249-417-11	CARBON	1K	5%	1/4W	
R657	1-249-405-11	CARBON	100	5%	1/4W	
R658	1-249-437-11	CARBON	47K	5%	1/4W	
R659	1-249-428-11	CARBON	8.2K	5%	1/4W	
R660	1-249-433-11	CARBON	22K	5%	1/4W	
R661	1-249-409-11	CARBON	220	5%	1/4W	
R663	1-249-435-11	CARBON	33K	5%	1/4W	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MA-82 MD-49

Ref. No.	Part No.	Description	Remark
R665	1-249-431-11	CARBON 15K 5%	1/4W
R666	1-249-405-11	CARBON 100 5%	1/4W
R680	1-249-409-11	CARBON 220 5%	1/4W
R681	1-249-433-11	CARBON 22K 5%	1/4W
R682	1-249-437-11	CARBON 47K 5%	1/4W
R696	1-249-423-11	CARBON 3.3K 5%	1/4W
R697	1-249-429-11	CARBON 10K 5%	1/4W
R698	1-249-417-11	CARBON 1K 5%	1/4W
R699	1-249-417-11	CARBON 1K 5%	1/4W
R950	⚠1-212-942-00	FUSIBLE 2.2 5%	1/2W
R951	1-249-429-11	CARBON 10K 5%	1/4W
R952	⚠1-212-942-00	FUSIBLE 2.2 5%	1/2W
		< MODULATOR >	
RF001	⚠1-466-150-11	MODULATOR, RF (RFU-1025)	(EXCEPT 71HF)
RF001	⚠1-466-358-11	MODULATOR, RF (RFU-1020)	(71HF)
		< VARIABLE RESISTOR >	
RV401	1-238-013-11	RES, ADJ, CARBON 2.2K	
RV501	1-238-019-11	RES, ADJ, CARBON 47K	
RV502	1-238-019-11	RES, ADJ, CARBON 47K	
RV600	1-228-995-00	RES, ADJ, METAL 22K	
		< CRYSTAL >	
X501	1-578-774-11	VIBRATOR, CRYSTAL (14.3MHz)	
X601	1-577-381-11	VIBRATOR, CRYSTAL (12MHz)	

****

* A-6754-278-A MD-49 BOARD, COMPLETE

****

(Ref.No 4,000 Series)

* 2-387-601-01 CUSHION, RUBBER

Ref. No.	Part No.	Description	Remark
		< CAPACITOR >	
C001	1-161-494-00	CERAMIC 0.022uF	25V
C002	1-161-494-00	CERAMIC 0.022uF	25V
C003	1-126-157-11	ELECT 10uF 20%	16V
C004	1-161-379-00	CERAMIC 0.01uF 20%	25V
C005	1-126-157-11	ELECT 10uF 20%	16V
C006	1-124-589-11	ELECT 47uF 20%	16V
C008	1-164-159-11	CERAMIC 0.1uF	50V
C009	1-164-159-11	CERAMIC 0.1uF	50V
C011	1-162-849-11	CERAMIC 0.068uF 10%	16V
C012	1-162-849-11	CERAMIC 0.068uF 10%	16V
C013	1-162-849-11	CERAMIC 0.068uF 10%	16V
C014	1-126-160-11	ELECT 1uF 20%	50V
C016	1-124-589-11	ELECT 47uF 20%	16V
C017	1-126-162-11	ELECT 3.3uF 20%	50V
C018	1-124-589-11	ELECT 47uF 20%	16V
C019	1-124-589-11	ELECT 47uF 20%	16V
C020	1-161-379-00	CERAMIC 0.01uF 20%	25V
C021	1-162-292-31	CERAMIC 680PF 10%	50V
C027	1-162-294-31	CERAMIC 0.001uF 10%	50V
C028	1-162-294-31	CERAMIC 0.001uF 10%	50V
		< CONNECTOR >	
CN001	1-506-494-11	PIN, CONNECTOR 15P	
CN002	1-569-335-11	CONNECTOR, BOARD TO BOARD 9P	
CN003	1-569-334-11	CONNECTOR, BOARD TO BOARD 5P	
CN004	1-569-341-11	CONNECTOR, BOARD TO BOARD 19P	
CN005	1-506-482-11	CONNECTOR 3P, MALE	
CN006	1-569-333-11	CONNECTOR, BOARD TO BOARD 3P	
CN007	1-569-341-11	CONNECTOR, BOARD TO BOARD 19P	
CN008	1-506-482-11	CONNECTOR 3P, MALE	
		< DIODE >	
D001	8-719-985-00	DIODE GL451VS1	
D004	8-719-109-93	DIODE RD6.2ES-B2	
D005	8-719-109-93	DIODE RD6.2ES-B2	
D006	8-719-109-93	DIODE RD6.2ES-B2	
D007	8-719-109-93	DIODE RD6.2ES-B2	
		< IC >	
IC002	8-759-938-12	IC BA10324	
IC004	⚠8-759-234-03	IC TA8424F	
		< PHOTO INTERUPTER >	
PH001	8-759-144-33	PHOTO SENSOR PS6002	
PH002	8-759-144-33	PHOTO SENSOR PS6002	
		< IC LINK >	
PS001	1-532-685-00	LINK, IC (ICP-N20) 0.8A	
		< PHOTO TRANSISTOR >	
Q001	8-729-926-31	PHOTO TRANSISTOR PT483F1S	
Q002	8-729-926-31	PHOTO TRANSISTOR PT483F1S	
		< RESISTOR >	
R001	1-249-423-11	CARBON 3.3K 5%	1/4W
R002	1-249-423-11	CARBON 3.3K 5%	1/4W
R003	1-249-426-11	CARBON 5.6K 5%	1/4W
R004	1-249-426-11	CARBON 5.6K 5%	1/4W
R005	1-249-417-11	CARBON 1K 5%	1/4W
R006	1-249-441-11	CARBON 100K 5%	1/4W
R007	1-249-441-11	CARBON 100K 5%	1/4W
R008	1-249-425-11	CARBON 4.7K 5%	1/4W
R009	1-249-409-11	CARBON 220 5%	1/4W
R010	1-249-425-11	CARBON 4.7K 5%	1/4W

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description				Remark
R011	1-249-437-11	CARBON	47K	5%	1/4W	
R012	1-249-421-11	CARBON	2.2K	5%	1/4W	
R013	1-249-429-11	CARBON	10K	5%	1/4W	
R014	1-249-426-11	CARBON	5.6K	5%	1/4W	
R015	1-249-437-11	CARBON	47K	5%	1/4W	
R016	1-249-421-11	CARBON	2.2K	5%	1/4W	
R019	⚠1-249-377-11	CARBON	0.47	5%	1/4W	F
R020	1-249-406-11	CARBON	120	5%	1/4W	
R021	1-249-383-11	CARBON	1.5	5%	1/6W	
R022	1-249-408-11	CARBON	180	5%	1/4W	
R024	1-249-417-11	CARBON	1K	5%	1/4W	
R025	1-247-891-00	CARBON	330K	5%	1/4W	
R027	1-249-383-11	CARBON	1.5	5%	1/6W	
R028	1-249-383-11	CARBON	1.5	5%	1/6W	

< SWITCH >

Ref. No.	Part No.	Description
S001	1-570-953-11	SWITCH, PUSH (1 KEY)
S002	1-570-953-11	SWITCH, PUSH (1 KEY)

****

* A-6721-389-A MF-122 BOARD, COMPLETE (585HF;US, PX)

****

* A-6721-390-A MF-122 BOARD, COMPLETE(585HF;CND/589HF)

****

* A-6721-391-A MF-122 BOARD, COMPLETE (686HF;US, MX)

****

* A-6721-393-A MF-122 BOARD, COMPLETE (686HF;CND)

****

* A-6721-401-A MF-122 BOARD, COMPLETE (71HF)

****

(Ref. No 5,000 Series)

* 3-941-531-01 HOLDER, FL

< CAPACITOR >

Ref. No.	Part No.	Description			
C803	1-164-056-11	CERAMIC	27PF	5%	50V
C804	1-125-486-11	DUBLE LAYERS	0.22F		5.5V
C805	1-126-160-11	ELECT	1uF	20%	50V
C808	1-161-494-00	CERAMIC	0.022uF		25V
C809	1-126-154-11	ELECT	47uF	20%	6.3V
C810	1-161-494-00	CERAMIC	0.022uF		25V
C811	1-128-057-11	ELECT	330uF	20%	6.3V

< VIBRATOR >

Ref. No.	Part No.	Description
CF801	1-577-101-11	VIBRATOR, CERAMIC

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CN801	1-580-846-11	CONNECTOR, BOARD TO BOARD 15P	
CN802	1-580-846-11	CONNECTOR, BOARD TO BOARD 15P	
CN803	1-562-631-11	SOCKET, CONNECTOR	
CN804	1-580-850-11	CONNECTOR (DMS) 8P	
CN805	1-568-672-11	CONNECTOR, BOARD TO BOARD 12P	

< TRIMMER >

Ref. No.	Part No.	Description
CT801	1-141-318-11	CAP, VAR, TRIMMER 20P

< DIODE >

Ref. No.	Part No.	Description	
D801	8-719-200-82	DIODE	11ES2
D802	8-719-200-82	DIODE	11ES2
D803	8-719-110-08	DIODE	RD8.2ES-B2
D807	8-719-109-97	DIODE	RD6.8ES-B2
D808	8-719-109-97	DIODE	RD6.8ES-B2
D809	8-719-109-97	DIODE	RD6.8ES-B2
D810	8-719-109-97	DIODE	RD6.8ES-B2
D811	8-719-109-97	DIODE	RD6.8ES-B2
D812	8-719-109-93	DIODE	RD6.2ES-B2

< IC >

Ref. No.	Part No.	Description	
IC801	8-752-818-76	IC	CXP50116-218Q
IC802	8-759-510-43	IC	PST572C
IC803	8-759-515-58	IC	PST-572H
IC804	1-466-131-21	IC	GP1U52X
IC805	8-759-996-58	IC	AK93C46

< COIL >

Ref. No.	Part No.	Description
L802	1-410-316-11	INDUCTOR 1uH
L803	1-410-316-11	INDUCTOR 1uH
L805	1-412-488-11	INDUCTOR 1uH
L806	1-408-397-00	INDUCTOR 1uH
L808	1-410-316-11	INDUCTOR 1uH

< INDICATOR TUBE >

Ref. No.	Part No.	Description
ND801	1-519-660-11	INDICATOR TUBE, FLUORESCENT

< RESISTOR >

Ref. No.	Part No.	Description			
R802	1-249-437-11	CARBON	47K	5%	1/4W
R803	1-249-425-11	CARBON	4.7K	5%	1/4W
R804	1-249-425-11	CARBON	4.7K	5%	1/4W
R805	1-249-425-11	CARBON	4.7K	5%	1/4W
R806	1-249-425-11	CARBON	4.7K	5%	1/4W
R807	1-249-425-11	CARBON	4.7K	5%	1/4W
R808	1-249-425-11	CARBON	4.7K	5%	1/4W
R809	1-249-425-11	CARBON	4.7K	5%	1/4W
R810	1-249-425-11	CARBON	4.7K	5%	1/4W
R811	1-249-418-11	CARBON	1.2K	5%	1/4W
R812	1-249-420-11	CARBON	1.8K	5%	1/4W
R813	1-249-437-11	CARBON	47K	5%	1/4W
R814	1-249-427-11	CARBON	6.8K	5%	1/4W

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifé.

Ref. No.	Part No.	Description	Remark
R818	1-249-429-11	CARBON 10K 5% 1/4W	
R821	1-249-418-11	CARBON 1.2K 5% 1/4W	
R822	1-249-429-11	CARBON 10K 5% 1/4W	
R824	1-249-425-11	CARBON 4.7K 5% 1/4W	
R825	1-249-425-11	CARBON 4.7K 5% 1/4W	
R826	1-249-425-11	CARBON 4.7K 5% 1/4W	
R827	1-249-417-11	CARBON 1K 5% 1/4W	
R829	1-249-429-11	CARBON 10K 5% 1/4W	
R830	1-249-437-11	CARBON 47K 5% 1/4W	(686HF)
R831	1-249-437-11	CARBON 47K 5% 1/4W	(585HF/589HF/71HF)
R832	1-249-437-11	CARBON 47K 5% 1/4W	
R832			(585HF;CND/589HF/71HF/686HF;CND)

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R833	1-249-437-11	CARBON 47K 5% 1/4W	(585HF;US,PX/686HF;MX)

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R835	1-249-418-11	CARBON 1.2K 5% 1/4W	
R836	1-249-417-11	CARBON 1K 5% 1/4W	
R837	1-249-425-11	CARBON 4.7K 5% 1/4W	
R838	1-249-425-11	CARBON 4.7K 5% 1/4W	
R839	1-249-425-11	CARBON 4.7K 5% 1/4W	(EXCEPT; 589HF)
R840	1-249-425-11	CARBON 4.7K 5% 1/4W	

< SWITCH >

Ref. No.	Part No.	Description	Remark
S801	1-571-977-11	SWITCH, TACTIL (HI-SPEED REWIND)	
S802	1-571-977-11	SWITCH, TACTIL (PAUSE)	

< CRYSTAL >

Ref. No.	Part No.	Description	Remark
X802	1-567-098-00	CRYSTAL (32.768MHz)	

****

Ref. No.	Part No.	Description	Remark
	* A-6756-082-A	MF-123 BOARD, COMPLETE (585HF;US,CND)	
		*************************************	
	* A-6756-240-A	MF-123 BOARD, COMPLETE (686HF;US,CND)	
		*************************************	
	* A-6756-103-A	MF-142 BOARD, COMPLETE (71HF)	
		*****************************	
	* A-6756-248-A	MF-142 BOARD, COMPLETE (585HF;PX/589HF)	
		***************************************	
	* A-6756-253-A	MF-142 BOARD, COMPLETE (686HF;MX)	
		*********************************	
		(Ref.No 5.000 Series)	

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CN501	1-568-666-11	CONNECTOR, BOARD TO BOARD 12P	

< JACK >

Ref. No.	Part No.	Description	Remark
CNJ501	1-580-845-11	JACK, PIN 3P	

< DIODE >

Ref. No.	Part No.	Description	Remark
D501	8-719-940-82	DIODE SLR-34MC3	
D502	8-719-940-82	DIODE SLR-34MC3	
D504	8-719-109-97	DIODE RD6.8ES-B2	

< COIL >

Ref. No.	Part No.	Description	Remark
L502	1-162-294-31	CERAMIC 0.001uF 10% 50V	

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R502	1-249-418-11	CARBON 1.2K 5% 1/4W	
R503	1-249-420-11	CARBON 1.8K 5% 1/4W	
R504	1-249-423-11	CARBON 3.3K 5% 1/4W	
R505	1-249-404-00	CARBON 82 5% 1/4W	
R513	1-249-427-11	CARBON 6.8K 5% 1/4W	
R514	1-249-401-11	CARBON 47 5% 1/4W	

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description	Remark
RV501	1-230-819-11	RES, VAR, CARBON 2K (SHARPNESS)	

< SWITCH >

Ref. No.	Part No.	Description	Remark
S501	1-571-977-11	SWITCH, TACTIL (POWER ON/OFF)	
S502	1-571-977-11	SWITCH, TACTIL (EJECT)	
S503	1-570-854-11	SWITCH, SLIDE (COMMAND MODE)	
S506	1-571-977-11	SWITCH, TACTIL (CL)	

****

Ref. No.	Part No.	Description	Remark
	⚠* A-6754-236-A	PS-274 BOARD, COMPLETE (585HF/686HF;US,CND)	

****

(Ref.No 5,000 Series)

Ref. No.	Part No.	Description	Remark
	* 1-533-189-11	HOLDER, FUSE	

< CAPACITOR >

Ref. No.	Part No.	Description	Remark
C901	⚠1-136-345-21	FILM 0.1uF 20% 125V	
C902	⚠1-161-742-00	CERAMIC 0.0022uF 20% 400V	
C903	⚠1-161-742-00	CERAMIC 0.0022uF 20% 400V	
C904	⚠1-128-337-11	ELECT 10000uF 20% 25V	
C905	1-161-494-00	CERAMIC 0.022uF 25V	
C906	1-161-494-00	CERAMIC 0.022uF 25V	
C907	1-126-101-11	ELECT 100uF 20% 16V	
C908	1-161-494-00	CERAMIC 0.022uF 25V	
C909	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C910	1-124-477-11	ELECT 47uF 20% 25V	
C911	1-126-101-11	ELECT 100uF 20% 16V	
C912	1-161-494-00	CERAMIC 0.022uF 25V	
C913	1-124-907-11	ELECT 10uF 20% 50V	
C914	1-124-477-11	ELECT 47uF 20% 25V	
C915	1-124-477-11	ELECT 47uF 20% 25V	
C916	1-124-443-00	ELECT 100uF 20% 10V	
C917	⚠1-124-912-11	ELECT 330uF 20% 50V	
C918	⚠1-124-912-11	ELECT 330uF 20% 50V	
C919	⚠1-126-939-11	ELECT 10000uF 20% 16V	
C920	1-161-494-00	CERAMIC 0.022uF 25V	
C921	1-126-233-11	ELECT 22uF 20% 50V	
C922	1-124-443-00	ELECT 100uF 20% 10V	
C923	1-130-495-00	MYLAR 0.1uF 5% 50V	
C924	1-162-286-31	CERAMIC 220PF 10% 50V	
C925	1-162-286-31	CERAMIC 220PF 10% 50V	

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CN901	1-569-341-11	CONNECTOR, BOARD TO BOARD 19P	
CN902	1-506-468-11	CONNECTOR 3P, MALE	
CN903	1-506-468-11	CONNECTOR 3P, MALE	

< DIODE >

Ref. No.	Part No.	Description	Remark
D901	⚠8-719-510-22	DIODE D3SB60	
D902	⚠8-719-110-36	DIODE RD13ES-B2	
D903	8-719-109-85	DIODE RD5.1ES-B2	
D904	⚠8-719-109-93	DIODE RD5.6ES-B2	
D905	⚠8-719-200-82	DIODE 11ES2	
D906	⚠8-719-200-82	DIODE 11ES2	
D907	⚠8-719-511-40	DIODE S1VB40	
D908	⚠8-719-109-97	DIODE RD6.8ES-B2	
D909	8-719-110-63	DIODE RD24ES-B2	
D910	⚠8-719-911-19	DIODE 1SS119	

< FUSE >

Ref. No.	Part No.	Description	Remark
F901	⚠1-532-742-11	FUSE, GLASS TUBE (1.6A 125V)	
F902	⚠1-532-746-11	FUSE, GLASS TUBE (4A 125V)	
F903	⚠1-532-744-11	FUSE, GLASS TUBE (2.5A 125V)	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q902	⚠8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q903	8-729-900-61	TRANSISTOR DTA114ES	
Q904	8-729-900-89	TRANSISTOR DTC144ES	
Q906	⚠8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q907	⚠8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q908	⚠8-729-111-55	TRANSISTOR 2SD1312-K	
Q909	⚠8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q910	⚠8-729-111-55	TRANSISTOR 2SD1312-K	
Q911	⚠8-729-111-55	TRANSISTOR 2SD1312-K	

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R901	⚠1-202-729-00	SOLID 6.8M 10% 1/2W	
R902	1-249-417-11	CARBON 1K 5% 1/4W	
R904	1-247-756-11	CARBON 2.2K 5% 1/2W	
R905	1-249-425-11	CARBON 4.7K 5% 1/4W	
R906	1-249-419-11	CARBON 1.5K 5% 1/4W	
R907	1-249-419-11	CARBON 1.5K 5% 1/4W	
R908	1-215-428-00	METAL 2K 1% 1/6W	
R909	1-215-427-00	METAL 1.8K 1% 1/6W	
R910	1-215-420-81	METAL 910 1% 1/6W	
R911	1-215-439-00	METAL 5.6K 1% 1/6W	
R912	1-249-417-11	CARBON 1K 5% 1/4W	
R913	1-249-409-11	CARBON 220 5% 1/4W	
R914	⚠1-219-112-11	FUSIBLE 10 5% 1/4W	F
R915	⚠1-219-112-11	FUSIBLE 10 5% 1/4W	F
R918	1-249-417-11	CARBON 1K 5% 1/4W	

< TRANSFORMER >

Ref. No.	Part No.	Description	Remark
T901	⚠1-421-765-11	FILTER, LINE	
T902	⚠1-450-372-11	TRANSFORMER, POWER	

****

Note: The following parts of power supply block assemblies should be referred to the SUPPLEMENT-1.
SLV-585HF; US/686HF; US MODEL: serial No. 1,000,001 later.
SLV-585HF; CND/686HF; CND MODEL: serial No. 900,001 later.
SLV-585HF; PX/686HF; MX/589HF/71HF: serial No. 10,001 later.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

RP-112 RP-128 DQ-6

Ref. No.	Part No.	Description			Remark	
	* A-6727-301-A	RP-112 BOARD, COMPLETE (686HF;US, CND)				
		**************************************				
	* A-6727-302-A	RP-112 BOARD, COMPLETE (585HF;US, CND)				
		**************************************				
	* A-6727-314-A	RP-128 BOARD, COMPLETE (71HF)				
		******************************				
	* A-6727-357-A	RP-128 BOARD, COMPLETE (585HF;PX/589HF)				
		**				
	* A-6727-361-A	RP-128 BOARD, COMPLETE (686HF;MX)				
		**********************************				
		(Ref. No 1,000 Series)				
	* 1-639-699-12	DQ-6 BOARD (Ref. No. 4,000 Series)				
	* 1-639-699-31	DQ-6 BOARD (71HF)				
		*****************				
	3-682-057-11	SPACER (SMALL)				
	* 3-941-530-01	CASE, SHIELD, RP				

< CAPACITOR >

Ref. No.	Part No.	Description			Remark	
C101	1-126-160-11	ELECT	1uF	20%	50V	
C102	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C103	1-126-160-11	ELECT	1uF	20%	50V	
C104	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C105	1-126-160-11	ELECT	1uF	20%	50V	
C107	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C108	1-124-584-00	ELECT	100uF	20%	10V	
C109	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C110	1-131-349-00	TANTALUM	2.2uF	10%	35V	
C112	1-131-347-00	TANTALUM	1uF	10%	35V	
C113	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C118	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
C119	1-163-116-00	CERAMIC CHIP	91PF	5%	50V	
C121	1-163-123-00	CERAMIC CHIP	180PF	5%	50V	
C122	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
C123	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
C801	1-164-159-11	CERAMIC	0.1uF		50V	
C802	1-126-154-11	ELECT	47uF	20%	6.3V	
C803	1-164-159-11	CERAMIC	0.1uF		50V	
C804	1-124-464-11	ELECT	0.22uF	20%	50V	
C805	1-162-213-31	CERAMIC	39PF	5%	50V	
C806	1-162-213-31	CERAMIC	39PF	5%	50V	
C807	1-124-464-11	ELECT	0.22uF	20%	50V	
C808	1-164-159-11	CERAMIC	0.1uF		50V	
C809	1-164-159-11	CERAMIC	0.1uF		50V	
C810	1-124-464-11	ELECT	0.22uF	20%	50V	
C811	1-162-213-31	CERAMIC	39PF	5%	50V	
C812	1-162-209-31	CERAMIC	27PF	5%	50V	
C813	1-124-464-11	ELECT	0.22uF	20%	50V	
C814	1-164-159-11	CERAMIC	0.1uF		50V	
C815	1-162-209-31	CERAMIC	27PF	5%	50V	
C816	1-124-903-11	ELECT	1uF	20%	50V	
C817	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C818	1-164-095-11	CERAMIC	0.01uF	10%	16V	
C819	1-162-289-31	CERAMIC	390PF	10%	50V	
C820	1-161-327-00	CERAMIC	0.0033uF	20%	16V	
C821	1-164-095-11	CERAMIC	0.01uF	10%	16V	
C822	1-164-095-11	CERAMIC	0.01uF	10%	16V	
C823	1-102-962-00	CERAMIC	30PF	5%	50V	
C824	1-164-095-11	CERAMIC	0.01uF	10%	16V	
C825	1-164-070-11	CERAMIC	100PF	5%	50V	
C826	1-164-066-11	CERAMIC	68PF	5%	50V	
C827	1-102-820-00	CERAMIC	330PF	5%	50V	
C828	1-124-443-00	ELECT	100uF	20%	10V	
C829	1-162-851-11	CERAMIC	0.1uF	10%	16V	
C831	1-126-154-11	ELECT	47uF	20%	6.3V	
C832	1-164-159-11	CERAMIC	0.1uF		50V	
C833	1-164-095-11	CERAMIC	0.01uF	10%	16V	
C834	1-162-851-11	CERAMIC	0.1uF	10%	16V	
C835	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C836	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C838	1-102-935-00	CERAMIC	2.0PF	+-0.25PF	50V	
C839	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C840	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C850	1-162-306-11	CERAMIC	0.01uF	20%	16V	(686HF)
C852	1-162-282-31	CERAMIC	100PF	10%	50V	(686HF)
C853	1-101-361-00	CERAMIC	150PF	5%	50V	(686HF)
C854	1-101-890-00	CERAMIC	75PF	5%	50V	(686HF)
C855	1-164-159-11	CERAMIC	0.1uF		50V	(686HF)
C856	1-124-907-11	ELECT	10uF	20%	50V	(686HF)
C857	1-164-159-11	CERAMIC	0.1uF		50V	(686HF)
C859	1-162-306-11	CERAMIC	0.01uF	20%	16V	(686HF)

< CONNECTOR >

Ref. No.	Part No.	Description
CN101	1-506-487-11	CONNECTOR 8P, MALE
CN801	* 1-563-590-11	CONNECTOR, FLEXIBLE 13P
CN802	1-569-338-11	CONNECTOR, BOARD TO BOARD 19P
CN804	* 1-564-031-00	PIN, CONNECTOR 6P

< DIODE >

Ref. No.	Part No.	Description	
D801	8-719-911-19	DIODE	1SS119
D802	8-719-911-19	DIODE	1SS119
D803	8-719-911-19	DIODE	1SS119

< IC >

Ref. No.	Part No.	Description	
IC101	8-759-421-19	IC	AN3317K
IC801	8-759-320-52	IC	HA118019NT

Ref. No.	Part No.	Description	Remark
		< COIL >	
L101	1-407-169-XX	INDUCTOR 100uH	
L103	1-408-978-21	INDUCTOR 47uH	
L104	1-408-985-21	INDUCTOR 180uH	
L105	1-408-977-21	INDUCTOR 39uH	
L106	1-408-978-21	INDUCTOR 47uH	
L801	1-408-421-00	INDUCTOR 100uH	
L802	1-408-414-00	INDUCTOR 27uH	
L803	1-408-409-00	INDUCTOR 10uH	
L804	1-408-424-00	INDUCTOR 180uH	
L805	1-408-421-00	INDUCTOR 100uH	
L806	1-408-421-00	INDUCTOR 100uH	
L807	1-408-418-00	INDUCTOR 56uH	
L808	1-408-412-00	INDUCTOR 18uH	
L809	1-408-415-00	INDUCTOR 33uH	
L850	1-408-968-21	INDUCTOR 6.8uH (686HF)	
L851	1-408-421-00	INDUCTOR 100uH (686HF)	
		< CONNECTOR >	
LP101	* 1-573-234-11	PIN. CONNECTOR (PC BOARD) 1P	
LP102	* 1-573-234-11	PIN. CONNECTOR (PC BOARD) 1P	
		< TRANSISTOR >	
Q801	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q802	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q803	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q804	8-729-900-89	TRANSISTOR DTC144ES	
Q805	8-729-900-89	TRANSISTOR DTC144ES	
Q806	8-729-900-89	TRANSISTOR DTC144ES	
Q807	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q808	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q850	8-729-113-31	TRANSISTOR 2SB733-2 (686HF)	
Q851	8-729-900-80	TRANSISTOR DTC114ES (686HF)	
Q852	8-729-119-76	TRANSISTOR 2SA1175-HFE (686HF)	
Q853	8-729-119-76	TRANSISTOR 2SA1175-HFE (686HF)	
Q854	8-729-900-89	TRANSISTOR DTC144ES (686HF)	
		< RESISTOR >	
R101	1-249-393-11	CARBON 10 5% 1/4W	
R102	1-249-393-11	CARBON 10 5% 1/4W	
R103	1-249-410-11	CARBON 270 5% 1/4W	
R104	1-249-409-11	CARBON 220 5% 1/4W	
R105	1-249-410-11	CARBON 270 5% 1/4W	
R106	1-249-435-11	CARBON 33K 5% 1/4W	
R107	1-249-426-11	CARBON 5.6K 5% 1/4W	
R110	1-249-432-11	CARBON 18K 5% 1/4W	
R111	1-249-435-11	CARBON 33K 5% 1/4W	
R112	1-249-435-11	CARBON 33K 5% 1/4W	

Ref. No.	Part No.	Description	Remark
R113	1-216-045-00	METAL CHIP 680 5% 1/10W	
R114	1-216-045-00	METAL CHIP 680 5% 1/10W	
R801	1-249-408-11	CARBON 180 5% 1/4W	
R802	1-249-408-11	CARBON 180 5% 1/4W	
R803	1-249-405-11	CARBON 100 5% 1/4W	
R804	1-249-405-11	CARBON 100 5% 1/4W	
R805	1-249-432-11	CARBON 18K 5% 1/4W	
R806	1-247-895-00	CARBON 470K 5% 1/4W	
R807	1-249-429-11	CARBON 10K 5% 1/4W	
R808	1-249-429-11	CARBON 10K 5% 1/4W	
R809	1-249-433-11	CARBON 22K 5% 1/4W	
R810	1-249-429-11	CARBON 10K 5% 1/4W	
R811	1-249-417-11	CARBON 1K 5% 1/4W	
R812	1-249-421-11	CARBON 2.2K 5% 1/4W	
R813	1-249-421-11	CARBON 2.2K 5% 1/4W	
R814	1-249-412-11	CARBON 390 5% 1/4W	
R815	1-249-412-11	CARBON 390 5% 1/4W	
R816	1-249-416-11	CARBON 820 5% 1/4W	
R817	1-249-426-11	CARBON 5.6K 5% 1/4W	
R818	1-249-421-11	CARBON 2.2K 5% 1/4W	
R819	1-249-413-11	CARBON 470 5% 1/4W	
R820	1-249-415-11	CARBON 680 5% 1/4W	
R821	1-249-414-11	CARBON 560 5% 1/4W	
R822	1-249-417-11	CARBON 1K 5% 1/4W	
R823	1-249-416-11	CARBON 820 5% 1/4W	
R824	1-249-418-11	CARBON 1.2K 5% 1/4W	
R825	1-249-417-11	CARBON 1K 5% 1/4W	
R826	1-247-893-11	CARBON 390K 5% 1/4W	
R827	1-249-417-11	CARBON 1K 5% 1/4W	
R828	1-249-420-11	CARBON 1.8K 5% 1/4W	
R829	1-249-420-11	CARBON 1.8K 5% 1/4W	
R830	1-249-429-11	CARBON 10K 5% 1/4W	
R831	1-249-429-11	CARBON 10K 5% 1/4W	
R832	1-249-419-11	CARBON 1.5K 5% 1/4W	
R833	1-249-417-11	CARBON 1K 5% 1/4W	
R834	1-249-433-11	CARBON 22K 5% 1/4W	
R835	1-249-435-11	CARBON 33K 5% 1/4W	
R836	1-249-417-11	CARBON 1K 5% 1/4W	
R838	1-249-405-11	CARBON 100 5% 1/4W	
R839	1-249-416-11	CARBON 820 5% 1/4W	
R850	1-249-435-11	CARBON 33K 5% 1/4W	(686HF)
R851	1-249-405-11	CARBON 100 5% 1/4W	(686HF)
R852	1-249-417-11	CARBON 1K 5% 1/4W	(686HF)
R853	1-249-415-11	CARBON 680 5% 1/4W	(686HF)
R854	1-249-437-11	CARBON 47K 5% 1/4W	(686HF)
R855	1-249-439-11	CARBON 68K 5% 1/4W	(686HF)
R856	1-249-436-11	CARBON 39K 5% 1/4W	(686HF)
R857	1-249-432-11	CARBON 18K 5% 1/4W	(686HF)
R858	1-249-437-11	CARBON 47K 5% 1/4W	(686HF)

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description	Remark
RV801	1-238-545-11	RES, ADJ, CARBON 2.2K	

****

* A-6754-238-A TU-130 BOARD, COMPLETE
****
(Ref. No 5,000 Series)

* 3-710-578-01 COVER, VOLUME, 6 MOLD

< CAPACITOR >

Ref. No.	Part No.	Description			Remark
C001	1-124-589-11	ELECT	47uF	20%	16V
C002	1-126-163-11	ELECT	4.7uF	20%	50V
C003	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C004	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C005	1-126-101-11	ELECT	100uF	20%	16V
C007	1-163-108-00	CERAMIC CHIP	43PF	5%	50V
C008	1-163-108-00	CERAMIC CHIP	43PF	5%	50V
C011	1-163-016-00	CERAMIC CHIP	0.0039uF	10%	50V
C012	1-163-016-00	CERAMIC CHIP	0.0039uF	10%	50V
C014	1-124-477-11	ELECT	47uF	20%	25V
C015	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C016	1-124-477-11	ELECT	47uF	20%	25V
C019	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C020	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C021	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C022	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C023	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C024	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C025	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C026	1-163-095-00	CERAMIC CHIP	12PF	5%	50V
C027	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C028	1-163-091-00	CERAMIC CHIP	8PF		50V
C029	1-126-101-11	ELECT	100uF	20%	16V
C030	1-124-907-11	ELECT	10uF	20%	50V
C031	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C032	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C033	1-124-477-11	ELECT	47uF	20%	25V
C034	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C035	1-124-250-00	ELECT	0.15uF	20%	50V
C036	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C037	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C038	1-124-903-11	ELECT	1uF	20%	50V
C039	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C040	1-124-477-11	ELECT	47uF	20%	25V
C041	1-124-902-00	ELECT	0.47uF	20%	50V
C043	1-163-095-00	CERAMIC CHIP	12PF	5%	50V
C044	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C045	1-124-907-11	ELECT	10uF	20%	50V
C046	1-124-477-11	ELECT	47uF	20%	25V
C070	1-136-154-00	MYLAR	0.012uF	10%	50V
C071	1-130-480-00	MYLAR	0.0056uF	5%	50V
C072	1-124-252-00	ELECT	0.33uF	20%	50V
C073	1-124-907-11	ELECT	10uF	20%	50V
C074	1-124-907-11	ELECT	10uF	20%	50V
C075	1-130-476-00	MYLAR	0.0027uF	5%	50V
C076	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C077	1-124-907-11	ELECT	10uF	20%	50V
C078	1-131-365-00	TANTALUM	10uF	10%	20V
C079	1-124-903-11	ELECT	1uF	20%	50V
C080	1-131-368-00	TANTALUM	3.3uF	10%	16V
C081	1-124-907-11	ELECT	10uF	20%	50V
C082	1-124-907-11	ELECT	10uF	20%	50V
C083	1-163-075-00	CERAMIC CHIP	0.047uF		50V
C084	1-124-927-11	ELECT	4.7uF	20%	100V
C085	1-124-902-00	ELECT	0.47uF	20%	50V
C086	1-124-903-11	ELECT	1uF	20%	50V
C087	1-126-157-11	ELECT	10uF	20%	16V
C088	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C089	1-126-162-11	ELECT	3.3uF	20%	50V
C090	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C091	1-124-907-11	ELECT	10uF	20%	50V
C092	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C098	1-126-233-11	ELECT	22uF	20%	50V

< FILTER >

Ref. No.	Part No.	Description	Remark
CF001	1-577-559-11	FILTER, CERAMIC	
CF002	1-409-332-00	CERAMIC TRAP	
CF003	1-527-943-00	FILTER, CERAMIC	

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CN001	* 1-569-796-11	SOCKET, CONNECTOR 12P	
CN002	* 1-569-796-11	SOCKET, CONNECTOR 12P	

< DIODE >

Ref. No.	Part No.	Description		Remark
D001	⚠8-719-110-78	DIODE	RD33ES-B2	
D005	8-719-104-34	DIODE	1S2836	
D006	8-719-104-34	DIODE	1S2836	
D007	8-719-800-76	DIODE	1SS226	

< IC >

Ref. No.	Part No.	Description		Remark
IC001	8-759-630-93	IC	M51362SP	
IC002	8-752-035-71	IC	CXA1124AS	
IC003	8-759-981-64	IC	LM2903DQ	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

< JUMPER RESISTOR >

Ref. No.	Part No.	Description				Remark
JP002	1-216-296-00	METAL CHIP	0	5%	1/8W	
JP004	1-216-295-00	METAL CHIP	0	5%	1/10W	
JP005	1-216-296-00	METAL CHIP	0	5%	1/8W	
JP006	1-216-296-00	METAL CHIP	0	5%	1/8W	
JP007	1-216-296-00	METAL CHIP	0	5%	1/8W	
JP008	1-216-295-00	METAL CHIP	0	5%	1/10W	
JP009	1-216-296-00	METAL CHIP	0	5%	1/8W	
JP010	1-216-296-00	METAL CHIP	0	5%	1/8W	
JP011	1-216-296-00	METAL CHIP	0	5%	1/8W	
JP012	1-216-296-00	METAL CHIP	0	5%	1/8W	
JP013	1-216-295-00	METAL CHIP	0	5%	1/10W	
JP014	1-216-296-00	METAL CHIP	0	5%	1/8W	
JP015	1-216-296-00	METAL CHIP	0	5%	1/8W	
JP016	1-216-295-00	METAL CHIP	0	5%	1/10W	
JP017	1-216-295-00	METAL CHIP	0	5%	1/10W	
JP018	1-216-296-00	METAL CHIP	0	5%	1/8W	
JP019	1-216-296-00	METAL CHIP	0	5%	1/8W	
JP020	1-216-296-00	METAL CHIP	0	5%	1/8W	
JP021	1-216-295-00	METAL CHIP	0	5%	1/10W	
JP022	1-216-295-00	METAL CHIP	0	5%	1/10W	
JP023	1-216-296-00	METAL CHIP	0	5%	1/8W	
JP024	1-216-295-00	METAL CHIP	0	5%	1/10W	
JP025	1-216-296-00	METAL CHIP	0	5%	1/8W	
JP026	1-216-296-00	METAL CHIP	0	5%	1/8W	
JP027	1-216-295-00	METAL CHIP	0	5%	1/10W	
JP028	1-216-296-00	METAL CHIP	0	5%	1/8W	
JP029	1-216-296-00	METAL CHIP	0	5%	1/8W	
JP030	1-216-296-00	METAL CHIP	0	5%	1/8W	
JP031	1-216-295-00	METAL CHIP	0	5%	1/10W	

< COIL >

Ref. No.	Part No.	Description	Remark
L001	1-408-409-00	INDUCTOR 10uH	
L002	1-410-509-11	INDUCTOR 10uH	
L003	1-408-413-00	INDUCTOR 22uH	
L004	1-408-409-00	INDUCTOR 10uH	
L005	1-408-409-00	INDUCTOR 10uH	
L006	1-410-787-31	INDUCTOR 0.33uH	
L007	1-410-316-11	INDUCTOR 1uH	
L008	1-408-411-00	INDUCTOR 15uH	
L010	1-410-509-11	INDUCTOR 10uH	
L011	1-410-509-11	INDUCTOR 10uH	
L098	1-410-498-11	INDUCTOR 1.2uH	

< IC LINK >

Ref. No.	Part No.	Description	Remark
PS001	⚠1-532-679-00	LINK, IC (ICP-N15) 0.6A	

< TRANSISTOR >

Ref. No.	Part No.	Description		Remark
Q001	⚠8-729-173-38	TRANSISTOR	2SA733-K	
Q002	8-729-901-01	TRANSISTOR	DTC144EK	
Q003	8-729-901-06	TRANSISTOR	DTA144EK	
Q004	8-729-901-01	TRANSISTOR	DTC144EK	
Q005	8-729-822-90	TRANSISTOR	2SC3779C	
Q006	8-729-822-90	TRANSISTOR	2SC3779C	
Q007	8-729-920-74	TRANSISTOR	2SC2412K-QR	
Q008	8-729-920-74	TRANSISTOR	2SC2412K-QR	
Q009	8-729-920-74	TRANSISTOR	2SC2412K-QR	
Q070	8-729-920-74	TRANSISTOR	2SC2412K-QR	
Q071	8-729-901-01	TRANSISTOR	DTC144EK	

< RESISTOR >

Ref. No.	Part No.	Description				Remark
R001	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R002	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R003	1-216-037-00	METAL CHIP	330	5%	1/10W	
R004	1-216-035-00	METAL CHIP	270	5%	1/10W	
R005	1-216-025-00	METAL CHIP	100	5%	1/10W	
R006	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R007	1-216-025-00	METAL CHIP	100	5%	1/10W	
R008	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R009	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R010	1-216-033-00	METAL CHIP	220	5%	1/10W	
R012	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R013	1-216-063-00	METAL CHIP	3.9K	5%	1/10W	
R014	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R015	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R016	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R018	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R019	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R020	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R023	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R025	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R029	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R030	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	
R031	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R032	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R033	1-216-017-00	METAL CHIP	47	5%	1/10W	
R034	1-216-105-00	METAL CHIP	220K	5%	1/10W	
R035	1-216-105-00	METAL CHIP	220K	5%	1/10W	
R036	1-216-063-00	METAL CHIP	3.9K	5%	1/10W	
R038	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R039	1-216-043-00	METAL CHIP	560	5%	1/10W	
R040	1-216-025-00	METAL CHIP	100	5%	1/10W	
R041	1-216-037-00	METAL CHIP	330	5%	1/10W	
R042	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	
R043	1-216-037-00	METAL CHIP	330	5%	1/10W	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

TU-130 YC-112

Ref. No.	Part No.	Description			Remark
R044	1-216-037-00	METAL CHIP	330	5%	1/10W
R046	1-216-119-00	METAL CHIP	820K	5%	1/10W
R047	1-216-033-00	METAL CHIP	220	5%	1/10W
R048	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R049	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R050	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R051	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R053	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R054	1-216-029-00	METAL CHIP	150	5%	1/10W
R055	1-216-039-00	METAL CHIP	390	5%	1/10W
R056	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R057	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R058	1-216-037-00	METAL CHIP	330	5%	1/10W
R059	1-216-037-00	METAL CHIP	330	5%	1/10W
R060	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R061	1-216-047-00	METAL CHIP	820	5%	1/10W
R062	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R063	1-216-021-00	METAL CHIP	68	5%	1/10W
R064	1-216-025-00	METAL CHIP	100	5%	1/10W
R065	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R070	1-216-097-00	METAL CHIP	100K	5%	1/10W
R071	1-216-121-00	METAL CHIP	1M	5%	1/10W
R072	1-216-690-11	METAL CHIP	43K	0.5%	1/10W
R073	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R074	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R075	1-216-073-00	METAL CHIP	10K	5%	1/10W
R076	1-216-097-00	METAL CHIP	100K	5%	1/10W
R077	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R078	1-216-117-00	METAL CHIP	680K	5%	1/10W
R079	1-216-691-11	METAL CHIP	47K	0.5%	1/10W
R080	1-216-691-11	METAL CHIP	47K	0.5%	1/10W
R081	1-216-089-00	METAL CHIP	47K	5%	1/10W
R082	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R083	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R084	1-216-049-00	METAL CHIP	1K	5%	1/10W
R085	1-216-073-00	METAL CHIP	10K	5%	1/10W
R086	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R087	1-216-077-00	METAL CHIP	15K	5%	1/10W
R088	1-216-073-00	METAL CHIP	10K	5%	1/10W
R089	1-216-073-00	METAL CHIP	10K	5%	1/10W
R098	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R099	1-216-079-00	METAL CHIP	18K	5%	1/10W

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description
RV001	1-241-080-11	RES, ADJ, CARBON 10K
RV002	1-241-079-11	RES, ADJ, CARBON 4.7K
RV070	1-228-993-00	RES, ADJ, METAL 4.7K
RV071	1-228-995-00	RES, ADJ, METAL 22K
RV072	1-228-996-00	RES, ADJ, METAL 47K
RV073	1-241-080-11	RES, ADJ, CARBON 10K

< SWITCH >

Ref. No.	Part No.	Description
SWF001	1-404-971-11	FILTER, SURFACE WAVE

< COIL >

Ref. No.	Part No.	Description
T001	1-404-749-11	COIL
T002	1-404-802-11	COIL
T003	1-404-752-11	COIL
T004	1-404-744-11	COIL, IF

< TUNER >

Ref. No.	Part No.	Description
TU001	⚠1-465-239-11	TUNER, ET (BTP-2A401)

****

* A-6754-241-A YC-112 BOARD, COMPLETE
****
(Ref. No 2,000 Series)

3-729-971-01 COVER, VOLUME

< CAPACITOR >

Ref. No.	Part No.	Description			Remark
C001	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C002	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C003	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C004	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C005	1-124-589-11	ELECT	47uF	20%	16V
C006	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C007	1-126-163-11	ELECT	4.7uF	20%	50V
C008	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C009	1-126-157-11	ELECT	10uF	20%	16V
C010	1-124-257-00	ELECT	2.2uF	20%	50V
C011	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C012	1-124-465-00	ELECT	0.47uF	20%	50V
C013	1-126-157-11	ELECT	10uF	20%	16V
C014	1-164-157-11	CERAMIC CHIP	0.068uF	10%	25V
C015	1-163-106-00	CERAMIC CHIP	36PF	5%	50V
C016	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C017	1-163-115-00	CERAMIC CHIP	82PF	5%	50V
C018	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C019	1-124-257-00	ELECT	2.2uF	20%	50V
C020	1-124-465-00	ELECT	0.47uF	20%	50V
C021	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C022	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C023	1-163-139-00	CERAMIC CHIP	820PF	5%	50V
C024	1-124-257-00	ELECT	2.2uF	20%	50V
C025	1-124-638-11	ELECT	22uF	20%	10V
C026	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C027	1-124-589-11	ELECT	47uF	20%	6V
C028	1-126-177-11	ELECT	100uF	20%	0V

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
C029	1-124-638-11	ELECT	22uF	20%	10V
C030	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C031	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C032	1-163-115-00	CERAMIC CHIP	82PF	5%	50V
C033	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C034	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C035	1-163-110-00	CERAMIC CHIP	51PF	5%	50V
C037	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C038	1-163-102-00	CERAMIC CHIP	24PF	5%	50V
C039	1-163-115-00	CERAMIC CHIP	82PF	5%	50V
C040	1-163-102-00	CERAMIC CHIP	24PF	5%	50V
C041	1-124-589-11	ELECT	47uF	20%	16V
C042	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C043	1-126-301-11	ELECT	1uF	20%	50V
C044	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C045	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C046	1-163-081-00	CERAMIC CHIP	0.22uF		25V
C047	1-126-163-11	ELECT	4.7uF	20%	50V
C048	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C049	1-126-301-11	ELECT	1uF	20%	50V
C050	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C051	1-126-301-11	ELECT	1uF	20%	50V
C052	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C053	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C054	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C055	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C056	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C057	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C058	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C059	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C060	1-124-589-11	ELECT	47uF	20%	16V
C061	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C062	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C063	1-124-589-11	ELECT	47uF	20%	16V
C064	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C066	1-126-176-11	ELECT	220uF	20%	10V
C068	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C069	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C070	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C071	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C073	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C074	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C076	1-124-589-11	ELECT	47uF	20%	16V
C077	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C078	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C079	1-126-301-11	ELECT	1uF	20%	50V
C081	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C082	1-164-232-11	CERAMIC CHIP	0.01uF		50V

Ref. No.	Part No.	Description			Remark
C083	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C101	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C102	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C103	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C104	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V

< CONNECTOR >

CN001	* 1-563-258-11	SOCKET, CONNECTOR 15P			
CN002	* 1-563-258-11	SOCKET, CONNECTOR 15P			

< DIODE >

D001	8-719-400-18	DIODE	MA152WK		
D002	8-719-400-18	DIODE	MA152WK		
D003	8-719-400-18	DIODE	MA152WK		
D004	8-719-400-18	DIODE	MA152WK		
D005	8-719-400-18	DIODE	MA152WK		
D008	8-719-200-82	DIODE	11ES2		
D009	8-719-400-18	DIODE	MA152WK		
D010	8-719-400-18	DIODE	MA152WK		
D102	8-719-400-18	DIODE	MA152WK		

< DELAY LINE >

DL001	1-415-668-11	DELAY LINE, ULTRASONIC			
DL001	1-415-668-31	DELAY LINE, ULTRASONIC			
DL001	1-415-668-11	DELAY LINE, ULTRASONIC			

< FILTER >

FL001	1-236-488-21	L.P.F			
FL002	1-236-489-11	B.P.F			

< IC >

IC001	8-759-821-62	IC	LA7326		
IC002	8-759-821-87	IC	LA7316AN		
IC003	8-759-821-50	IC	LC8991		
IC004	8-759-938-15	IC	BA178M05		

< JUMPER RESISTOR >

JR001	1-216-295-00	METAL CHIP	0	5%	1/10W
JR002	1-216-295-00	METAL CHIP	0	5%	1/10W
JR003	1-216-295-00	METAL CHIP	0	5%	1/10W
JR004	1-216-296-00	METAL CHIP	0	5%	1/8W
JR005	1-216-295-00	METAL CHIP	0	5%	1/10W
JR006	1-216-295-00	METAL CHIP	0	5%	1/10W
JR007	1-216-295-00	METAL CHIP	0	5%	1/10W
JR008	1-216-295-00	METAL CHIP	0	5%	1/10W
JR009	1-216-296-00	METAL CHIP	0	5%	1/8W
JR010	1-216-295-00	METAL CHIP	0	5%	1/10W
JR011	1-216-296-00	METAL CHIP	0	5%	1/8W
JR012	1-216-296-00	METAL CHIP	0	5%	1/8W

YC-112

Ref. No.	Part No.	Description	Remark
JR013	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR014	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR015	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR016	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR017	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR018	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR019	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR020	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR021	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR022	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR023	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR024	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR025	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR026	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR027	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR028	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR029	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR030	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR031	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR032	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR033	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR034	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR035	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR036	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR037	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR038	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR039	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR040	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR041	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR101	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR103	1-216-295-00	METAL CHIP 0 5% 1/10W	
		< JUMPER WIRE >	
JW002	1-216-295-00	METAL CHIP 0 5% 1/10W	
JW004	1-216-295-00	METAL CHIP 0 5% 1/10W	
JW014	1-216-295-00	METAL CHIP 0 5% 1/10W	
		< COIL >	
L001	1-410-524-41	INDUCTOR 180uH	
L002	1-410-667-31	INDUCTOR 22uH	
L005	1-408-417-00	INDUCTOR 47uH	
L006	1-408-424-00	INDUCTOR 180uH	
L007	1-410-335-11	INDUCTOR 150uH	
L008	1-410-509-11	INDUCTOR 10uH	
L009	1-410-516-11	INDUCTOR 39uH	
L011	1-408-421-00	INDUCTOR 100uH	
L012	1-408-419-00	INDUCTOR 68uH	
L013	1-408-419-00	INDUCTOR 68uH	
L015	1-410-516-11	INDUCTOR 39uH	
L101	1-410-437-11	INDUCTOR 330uH	
L102	1-410-435-21	INDUCTOR 220uH	
		< TRANSISTOR >	
Q001	8-729-901-06	TRANSISTOR DTA144EK	
Q002	8-729-230-49	TRANSISTOR 2SC2712G-YG	
Q003	8-729-901-01	TRANSISTOR DTC144EK	
Q004	8-729-305-25	TRANSISTOR 2SA1052C	
Q005	8-729-305-25	TRANSISTOR 2SA1052C	
Q006	8-729-901-47	TRANSISTOR DTA143EK	
Q007	8-729-230-49	TRANSISTOR 2SC2712G-YG	
Q008	8-729-230-49	TRANSISTOR 2SC2712G-YG	
Q009	8-729-230-49	TRANSISTOR 2SC2712G-YG	
Q010	8-729-230-49	TRANSISTOR 2SC2712G-YG	
Q011	8-729-305-25	TRANSISTOR 2SA1052C	
Q012	8-729-305-25	TRANSISTOR 2SA1052C	
Q015	8-729-230-49	TRANSISTOR 2SC2712G-YG	
Q019	8-729-620-06	TRANSISTOR 2SC3052EF	
Q020	8-729-230-49	TRANSISTOR 2SC2712G-YG	
Q021	8-729-620-06	TRANSISTOR 2SC3052EF	
Q022	8-729-305-25	TRANSISTOR 2SA1052C	
Q023	8-729-620-06	TRANSISTOR 2SC3052EF	
Q102	8-729-900-53	TRANSISTOR DTC114EK	
		< RESISTOR >	
R001	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R002	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R003	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R004	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R005	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R006	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R007	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R008	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R009	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R010	1-216-084-00	METAL GLAZE 30K 5% 1/10W	
R011	1-216-075-00	METAL CHIP 12K 5% 1/10W	
R012	1-216-101-00	METAL CHIP 150K 5% 1/10W	
R013	1-216-105-00	METAL CHIP 220K 5% 1/10W	
R014	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R015	1-216-047-00	METAL CHIP 820 5% 1/10W	
R016	1-216-043-00	METAL CHIP 560 5% 1/10W	
R017	1-216-052-00	METAL CHIP 1.3K 5% 1/10W	
R018	1-216-036-00	METAL CHIP 300 5% 1/10W	
R019	1-216-068-00	METAL CHIP 6.2K 5% 1/10W	
R020	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R021	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R022	1-216-041-00	METAL CHIP 470 5% 1/10W	
R023	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R024	1-216-121-00	METAL CHIP 1M 5% 1/10W	

Ref. No.	Part No.	Description	Remark
R025	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R026	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R027	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R028	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R029	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R030	1-216-045-00	METAL CHIP 680 5% 1/10W	
R031	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	
R032	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	
R033	1-216-748-11	METAL CHIP 39K 5% 1/10W	
R034	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R035	1-216-037-00	METAL CHIP 330 5% 1/10W	
R036	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R037	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R038	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R039	1-216-043-00	METAL CHIP 560 5% 1/10W	
R040	1-216-043-00	METAL CHIP 560 5% 1/10W	
R041	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R042	1-216-295-00	METAL CHIP 0 5% 1/10W	
R043	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R044	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R045	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R046	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R047	1-216-039-00	METAL CHIP 390 5% 1/10W	
R048	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R049	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R051	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R052	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
R055	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R059	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R060	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R061	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R062	1-216-039-00	METAL CHIP 390 5% 1/10W	
R063	1-216-043-00	METAL CHIP 560 5% 1/10W	
R064	1-216-031-00	METAL CHIP 180 5% 1/10W	
R065	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R066	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R067	1-216-041-00	METAL CHIP 470 5% 1/10W	
R069	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R070	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R071	1-216-052-00	METAL CHIP 1.3K 5% 1/10W	
R072	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R073	1-216-103-00	METAL CHIP 180K 5% 1/10W	
R074	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R075	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R076	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R082	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R083	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R084	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R085	1-216-043-00	METAL CHIP 560 5% 1/10W	
R086	1-216-025-00	METAL CHIP 100 5% 1/10W	
R088	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R089	1-216-041-00	METAL CHIP 470 5% 1/10W	
R098	1-216-072-00	METAL CHIP 9.1K 5% 1/10W	
R100	1-216-047-00	METAL CHIP 820 5% 1/10W	
R101	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R102	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R103	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description	Remark
RV002	1-238-166-11	RES. ADJ. CARBON 1K	
RV003	1-230-523-11	RES. ADJ. METAL 10K	
RV004	1-237-723-11	RES. ADJ. CARBON 4.7K	
RV005	1-237-723-11	RES. ADJ. CARBON 4.7K	
RV006	1-238-166-11	RES. ADJ. CARBON 1K	
RV007	1-238-166-11	RES. ADJ. CARBON 1K	

< CRYSTAL >

Ref. No.	Part No.	Description	Remark
X001	1-577-380-11	VIBRATOR, CRYSTAL (3.58MHz)	

****

* 1-638-178-21 OL-11 BOARD (Ref. No 8,000 Series)
****

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CNJ902	⚠1-526-985-11	AC INLET 2p (7A 125V)	

****

* 1-639-417-21 TR-61 BOARD (585HF/686HF;US, CND)
*********** (Ref. No 6,000 Series)

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CN951	1-506-468-11	CONNECTOR 3P, MALE	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q951	⚠8-729-111-55	TRANSISTOR 2SD2061-F	

****

* 1-639-418-21 TR-62 BOARD (585HF/686HF;US, CND)
*********** (Ref. No 7,000 Series)

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CN961	1-506-468-11	CONNECTOR 3P, MALE	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q961	⚠8-729-111-55	TRANSISTOR 2SD2061-F	

****

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MISCELLANEOUS
****

Ref.No.	Part No.	Description	Remark
	1-466-497-21	SWITCH BLOCK, CONTROL (585HF)	
	1-466-497-31	SWITCH BLOCK, CONTROL (686HF)	
	1-466-497-41	SWITCH BLOCK, CONTROL (71HF)	
	1-466-497-51	SWITCH BLOCK, CONTROL (589HF)	
	1-572-662-11	SWITCH, ROTARY (DUAL MODE SHUTTLE)	
	1-543-647-11	HEAD, FE	
	A-6761-129-C	HEAD BLOCK ASSY, ACE	
D001	8-719-985-00	DIODE GL451VS1 (LED)	
M901	⚠8-848-552-11	DRUM ASSY (DZH-28A-R) (686HF)	
M901	⚠8-848-554-01	DRUM ASSY (DZH-37A-R) (EXCEPT 686HF)	
M902	⚠8-835-394-11	MOTOR, DC U-26F (CAPSTAN)	
M903	X-3733-302-1	MOTOR ASSY, CAM	
M904	X-3727-784-1	MOTOR ASSY (LOADING)	
RF001	⚠1-466-150-11	MODULATOR, RF (RFU-1025) (EXCEPT 71HF)	
RF001	⚠1-466-358-11	MODULATOR, RF (RFU-1020) (71HF)	
S001	1-571-920-11	SWITCH, ROTARY	
TU001	⚠1-465-239-11	TUNER, ET (BTP-2A401)	

****

ACCESSORIES & PACKING MATERIALS
****

Ref.No.	Part No.	Description	Remark
	1-417-063-00	TRANSFORMER, ANTENNA (EAC-24) (71HF)	
	1-417-139-11	MATCHING TRANSFORMER, ANTENNA (EXCEPT 71HF)	
	1-465-770-11	REMOTE COMMANDER (RMT-V102A) (686HF)	
	1-465-770-21	REMOTE COMMANDER (RMT-V102) (585HF/71HF)	
	1-465-862-11	REMOTE COMMANDER (RMT-V112) (589HF)	
	1-513-379-00	CONVERTER (EAC-25) (71HF)	
	1-558-076-41	CORD, CONNECTION	
	⚠1-569-008-11	ADAPTER, CONVERSION 2P (585HF;PX)	
	⚠1-574-085-11	CORD, POWER (585HF;US,CND/686HF/589HF)	
	⚠1-575-131-11	CORD, POWER (585HF;PX)	
	1-575-334-11	CORD, CONNECTION	
	⚠1-575-491-11	CORD, POWER (71HF)	
	3-752-813-41	MANUAL, INSTRUCTION (CHINESE) (71HF)	
	3-752-868-21	MANUAL, INSTRUCTION (ENGLISH) (EXCEPT 71HF)	
	3-752-868-31	MANUAL, INSTRUCTION (FRENCH) (585HF;CND/686HF;CND/589HF)	
	3-752-868-41	MANUAL, INSTRUCTION (SPANISH)(686HF;MX)	
	3-753-871-31	INSTRUCTION (589HF)	
	* 3-759-581-21	SAFEGUARD (SONY), IMPORTANT (585HF;US/686HF;US)	
	* 3-941-533-01	CUSHION (UPPER) (EXCEPT 71HF)	
	* 3-941-534-01	CUSHION (LOWER) (EXCEPT 71HF)	
	* 3-941-538-01	INDIVIDUAL CARTON (585HF)	
	* 3-941-538-11	INDIVIDUAL CARTON (686HF)	
	* 3-944-220-11	INDIVIDUAL CARTON (71HF)	
	* 3-944-222-01	INDIVIDUAL CARTON (589HF)	
	* 3-944-227-01	CUSHION (UPPER) (71HF)	
	* 3-944-228-01	CUSHION (LOWER) (71HF)	

****

HARDWARE LIST
****

Ref.No.	Part No.	Description	Remark
#1	7-685-647-79	SCREW +BVTP 3X10 TYPE2 IT-3	
#2	7-685-648-79	SCREW +BVTP 3X12 TYPE2 IT-3	
#3	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
#4	7-682-546-04	SCREW +P 3X5	
#5	7-682-645-01	SCREW +PS 3X4	
#6	7-621-732-08	SET-SCT, HEX. 2X3 FLAT POINT	
#7	7-682-547-04	SCREW +P 3X6	
#8	7-682-548-04	SCREW +P 3X8	
#9	7-628-254-00	SCREW +PS 2.6X5	
#10	7-627-552-08	SCREW, PRECISION +P 1.7X2.5	

****

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

SECTION 7

ELECTRICAL ADJUTMENTS

During the adjustment, see the parts arrangement diagram relevant to the adjustment on page 192.

Necessary items and indications for total adjustment of electric circuit of this unit will be described in this chapter.

〔Instruments to be Used〕

1) Color TV
2) Single or dual trace type oscilloscope, band more than 15 MHz, delay mode, as provided.
3) Frequency counter (4 digits or more)
4) NTSC pattern generator
5) Digital voltmeter
6) Audio level meter
7) Audio generator
8) Attenuator
9) Distortion factor gauge
10) Audio multiple signal generator
11) Alignment tape
    Part code: H7099046H (MH-1)
12) Hi-Fi alignment tape
    Part code: H7099153H (Hi-Fi 400 Hz)

〔Connection〕

Unless otherwise specified, connect and adjust the measurement equipment as follows.

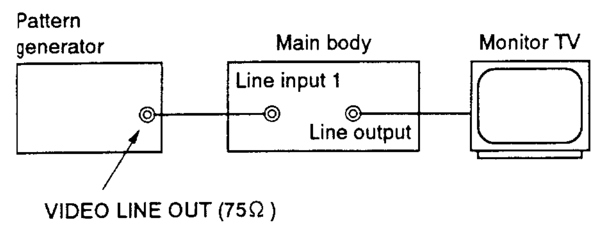


Fig. 7-1.

〔Set-up for Adjustment〕

The video signal from the pattern generator is used as adjustment signal for electrical adjustment. This video signal should meet the requirement. Connect the oscilloscope to the video input terminal on the MA-82 board and make sure that the amplitudes of sync signal of video signal, video portion and burst signal are flat at approximately 0.3, 0.7 and 0.3V, respectively, and that the level ratio of the burst signal and "red signal" are 0.30 : 0.66. Fig. 7-2. shows video signals (color bars) used in adjusting the electrical adjustment.

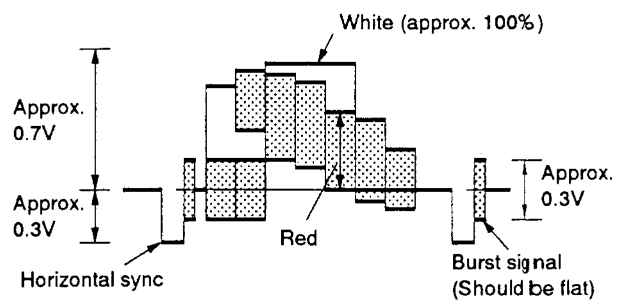


Fig. 7-2. Color bar signal of pattern generator

〔Alignment Tape (MH-1)〕

	Mode	Time	video signal	Audio signal
1	SP	Ten minutes	Stair-step	7 kHz
2		Five minutes	——	3 kHz
3		Ten minutes	Color bar	1 kHz
4		Three minutes	RF sweep	

〔Hi-Fi Alignment Tape〕

	Mode	Time	video signal	Audio signal
1	SP	Six minutes	Monaural scope	Normal: no signal HIFI: 400 Hz

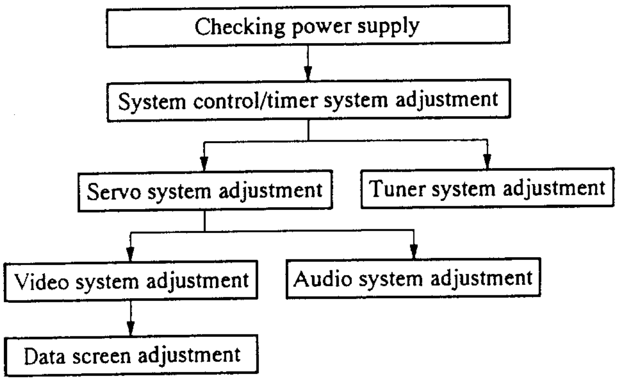
〔Specified Input/Output Level Impedance〕

Input/output terminal

Video input　Pin jack
Input signal: 1 Vp-p, 75Ω, unbalanced
Sync negative
VIDEO LINE OUT　Pin jack
Output signal: 1 Vp-p, 75Ω, unbalanced
Sync negative
AUDIO LINE IN　Pin jack
Input level: –7.5 dBs
(0 dBs=0.775 Vrms)
Input impedance: More than 47 kΩ
AUDIO LINE OUT　Pin jack
Specified output: –7.5 dBs
At 47 kΩ loaded.
Load impedance: More than 10 kΩ

〔Adjustment Sequence〕

Make the electrical adjustment in the following sequences.


Checking power supply
System control/timer system adjustment
Servo system adjustment
Tuner system adjustment
Video system adjustment
Audio system adjustment
Data screen adjustment

7-1. POWER SUPPLY CHECK (POWER BLOCK) (SLV-585HF/686HF: U/C ONLY) POWER BLOCK CHECK

Mode	E-E
Measurement Equipment	Digital voltmeter
UNSW 5.8V check	
Measurement Point	Pin ⑧ of CN711/CN901
Specified Value	5.8 ± 0.3 Vdc
MTR 12V check	
Measurement Point	Pin ② of CN711/CN901
Specified Value	12.0 ± 0.3 Vdc
SW 12V check	
Measurement Point	Pin ⑥ of CN711/CN901
Specified Value	12.3 ± 0.3 Vdc
SW 9V check	
Measurement Point	Pin ⑦ of CN711/CN901
Specified Value	9.0 ± 0.3 Vdc
SW 5V check	
Measurement Point	Pin ⑨ of CN711/CN901
Specified Value	5.0 ± 0.3 Vdc
+39V check	
Measurement Point	Pin ⑮ of CN711/CN901
Specified Value	42 ± 3 Vdc
-30V check	
Measurement Point	Pin ⑱ of CN711/CN901
Specified Value	-33 ± 2 Vdc
AC 3.3V check	
Measurement Point	Between Pin ⑯ and Pin ⑰ of CN711/CN901
Specified Value	3.3 ± 0.2 Vdc

Note: CN711, SLV-585HF: PX ONLY

Checking Method:
1) Confirm that each voltage meets the specified value.

7-2. SYSTEM CONTROL/TIMER SYSTEM ADJUSTMENT

1. Clock adjustment (MF-122 board)

Measurement Point	Pin ㉛ of IC801
Measurement Equipment	Frequency counter (Interval counter mode)
Adjustment Element	CT801
Specified Value	0.125 ± 0.0000005 sec

Note: Do not adjust CT801 except when replacing IC801.

Adjustment Method:

1) Connect the frequency counter as shown below.
2) Set oscillation frequency to the specified value using CT801.

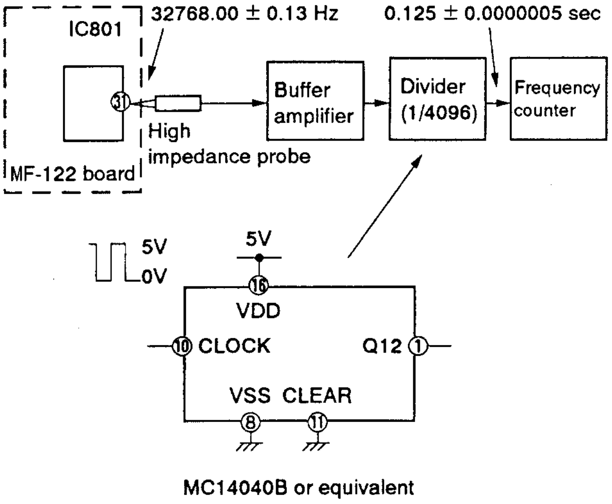

IC801
32768.00 ± 0.13 Hz
0.125 ± 0.0000005 sec
㉛
Buffer amplifier
Divider (1/4096)
Frequency counter
High impedance probe
MF-122 board
5V
0V
5V
⑯
VDD
⑩ CLOCK
Q12 ①
VSS CLEAR
⑧
⑪
MC14040B or equivalent

Fig. 7-3.

7-3. SERVO SYSTEM ADJUSTMENT

1. Switching position adjustment (MA-82 board)

Mode	Playback
Signal	Alignment tape, Stair step
Measurement Point	CH1: VIDEO LINE OUT terminal CH2: Pin ⑥ of CN006 (RF SWP)
Measurement Equipment	Oscilloscope
Adjustment Element	RV501
Specified Value	413 ± 32 μsec (6.5 ± 0.5H)

Adjustment Method:

1) Press the tracking buttons [▼] and [▲] at a time.
2) Adjust for 413 ± 32 μsec (6.5 ± 0.5) using RV501.

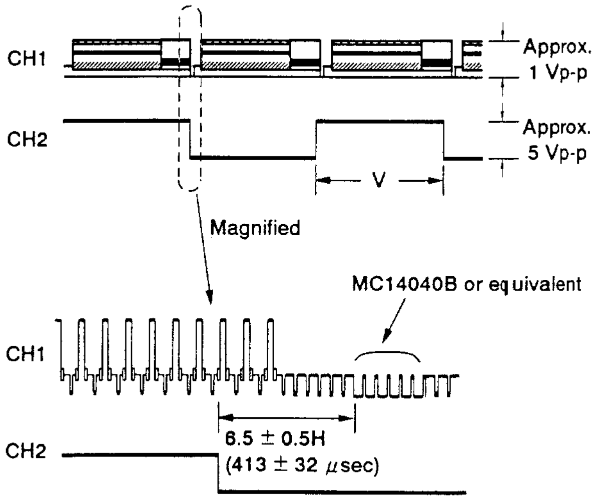

CH1
Approx. 1 Vp-p
CH2
Approx. 5 Vp-p
V
Magnified
MC14040B or equivalent
CH1
CH2
6.5 ± 0.5H
(413 ± 32 μsec)

Fig. 7-4. Switching position adjustment

7-4. VIDEO ADJUSTMENT

Adjust the video system in the following sequences as a rule. The color video signal supplied from the pattern generator is used as a video input signal for video system adjustment in the recording mode. Make sure that sync and color burst signals meet requirements specified at set up of adjustment shown in Fig. 7-2.

[Adjustment Sequences]

1) Crystal oscillation frequency confirmation
2) Noise cancel adjustment
3) Playback Y signal level adjustment
4) Sync AGC adjustment
5) Sync tip carrier set and deviation adjustment
6) Recording chroma signal level adjustment
7) Y signal recording current adjustment

1. Crystal oscillation frequency confirmation (YC-112 board)

Mode	Playback
Signal	Any tape
Measurement Point	Pin ⑰ of IC002
Measurement Equipment	Frequency counter, Oscilloscope
Specified Value	7159090 ± 108 Hz

Note: Connect the frequency counter through a buffer amplifier (oscilloscope, etc) of high input impedance (1 MΩ or more) and low capacity (10 pF or less).

Confirmation Method:

1) Make sure that the frequency is 7159090 ± 108 Hz.
2) Make sure that the amplitude is 550 ± 250 mp-p.

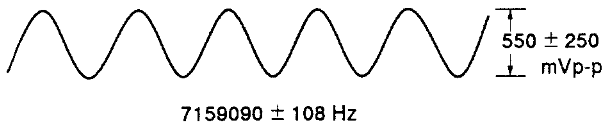


Fig. 7-5.

2. Noise cancel (YC-112 board)

Mode	Playback
Signal	Alignment tape, color bar
Measurement Point	CH1: Pin ⑩ of IC001 CH2: Pin ⑨ of IC001
Measurement Equipment	Oscilloscope (ADD mode) (CH2: invert mode)
Adjustment Element	Amplitude is minimum
Specified Value	RV006

Adjustment Method:

1) Invert and add CH2 waveform to CH1 waveform. (CH1 and CH2 have the same VOLT/DIV range.)
2) Make amplitude minimum using RV006.

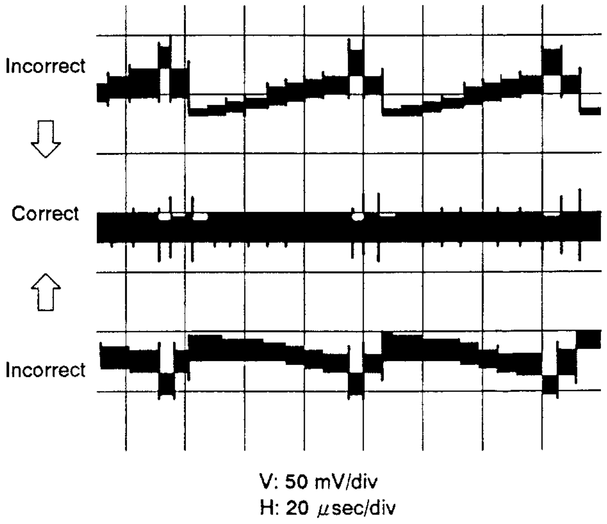


Fig. 7-6.

3. Playback Y signal level adjustment (YC-112 board)

Mode	Playback
Signal	Alignment tape, color bar
Measurement Point	VIDEO LINE OUT terminal (75Ω terminated)
Measurement Equipment	Oscilloscope
Adjustment Element	RV005
Specified Value	1.00 ± 0.05 Vp-p

Note 1: VIDEO LINE OUT should be terminated at 75Ω .
Note 2: Make this adjustment EDIT OFF condition.

Adjustment Method:
1) Adjust for 1.00 ± 0.05 Vp-p using RV005.

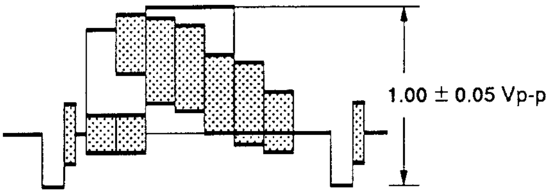


Fig. 7-7.

4. Sync AGC adjustment (YC-112 board)

Mode	Recording or EE
Signal	Color bar
Measurement Point	VIDEO LINE OUT terminal (75Ω terminated)
Measurement Equipment	Oscilloscope
Adjustment Element	RV002
Specified Value	1.00 ± 0.05 Vp-p

Note: VIDEO LINE OUT should be terminated at 75Ω .

Adjustment Method:
1) Adjust for 1.00 ± 0.05 Vp-p using RV002.

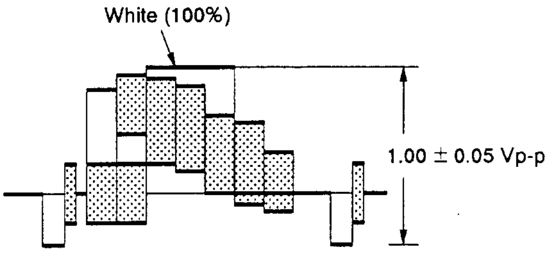


Fig. 7-8.

5. Sync tip carrier set and deviation adjustment (YC-112 board)

Before starting this adjustment, be sure to check that "3. recording Y signal level adjustment" has been completed.

Sync tip carrier set	
Mode	E-E
Signal	No signal
Measurement Point	Pin ㉚ of IC001
Measurement Equipment	Frequency counter
Adjustment Element	RV004
Specified Value	3.45 ± 0.05 MHz
Deviation adjustment	
Mode	Recording and playback
Signal	Color bar
Measurement Point	VIDEO LINE OUT terminal (75Ω terminated)
Measurement Equipment	Oscilloscope
Adjustment Element	RV003
Specified Value	1.00 ± 0.05 Vp-p

Note 1: Make this adjustment EDIT OFF condition.
Note 2: VIDEO LINE OUT should be terminated at 75Ω .

Adjustment Method:
1) Make no signal state and select the E-E mode.
2) Connect the frequency counter to the Pin ㉚ of IC001 and adjust for 3.45 ± 0.05 MHz using RV004.
3) Input the color bar signal to make recording.
4) Playback the recorded tape portion and check the play back Y signal level of VIDEO LINE OUT terminal (75Ω terminated).
   Specification: Should be 1.00 ± 0.05 Vp-p.
5) If does not meet the specification, repeat 1) to 2) after adjusting RV003.

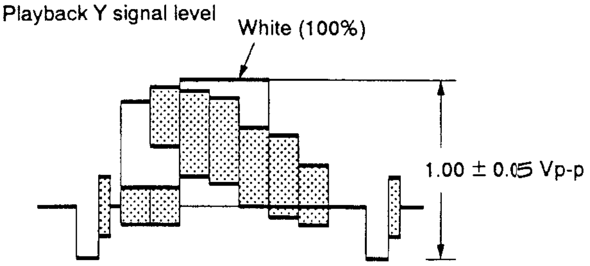


Fig. 7-9.

6. Recording chroma signal level adjustment (YC-112 board)

Mode	E-E
Signal	Color bar
Measurement Point	Pin ⑧ of CN002
Measurement Equipment	Oscilloscope
Adjustment Element	RV007
Specified Value	100± 5 mVp-p

Adjustment Method:

1) Adjust the color bar "red" level to 100 ± 5 mVp-p using RV007.

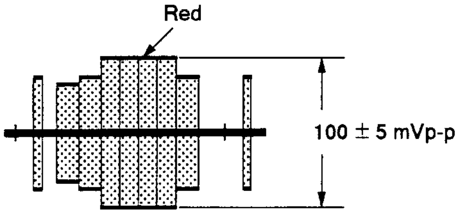


Fig. 7-10.

7. Y signal recording current adjustment (RP-112/128 board)

Mode	SP mode recording
Signal	No signal
Measurement Point	Pin ③ of CN804
Measurement Equipment	Oscilloscope
Adjustment element	RV801
Specified Value	1.60 ± 0.05 Vp-p

Adjustment Method:

1) Adjust for 1.60 ± 0.05 Vp-p using RV801.

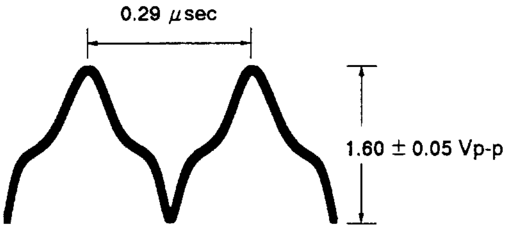


Fig. 7-11.

7-5. DATA SCREEN ADJUSTMENT

1. 4 fsc clock confirmation (MA-82 board)

Mode	E-E
Signal	No signal
Measurement Point	Pin ㉘ of IC601 (Note 1)
Measurement Equipment	Frequency counter
Specified Value	14318180 ± 100 Hz

Note 1: Connect a probe of high input impedance (1 MΩ or more) and low capacity (10 pF or less) through 1 kΩ resistor.

Confirmation Method:

1) Make sure that the clock frequency meets the specified value.
(A value approx. 100 Hz lower than the actual value may be indicated due to the probe.)

2. H sync pulse width adjustment (MA-82 board)

Mode	E-E
Signal	Color bar
Measurement Point	Pin ③ of IC602
Measurement Equipment	Oscilloscope
Adjustment Element	RV600
Specified Value	58.8 ± 0.2 µsec

Adjustment Method:

1) Adjust pulse width to 58.8 ± 0.2 µsec using RV600.

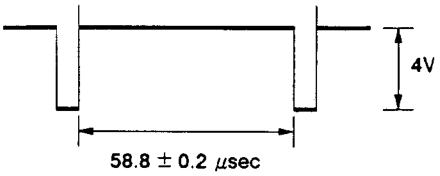


Fig. 7-12.

3. Character clock frequency confirmation (MA-82 board)

Mode	Playback
Signal	Alignment tape, color bar or stair case
Measurement Point	Pin ⑤ of IC601 (Note 1)
Measurement Equipment	Frequency counter
Specified Value	7.3 ± 0.3 MHz

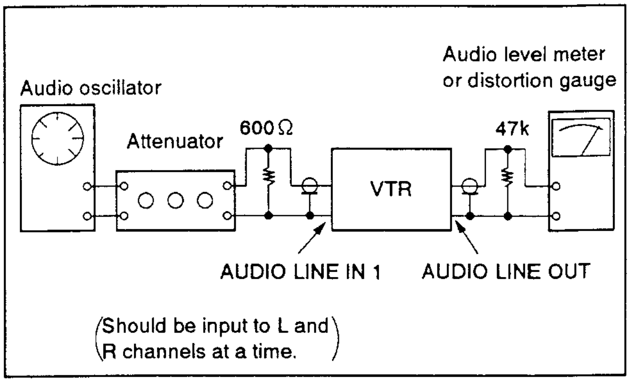
Note 1: Connect a probe of high input impedance (1 MΩ or more) and low capacity (10 pF or less) to the measurement point through 1 kΩ resistor.

Confirmation Method:

1) Make sure that the clock frequency meets the specified value.
(A value approx. 0.1 to 0.2 MHz lower than the actual value may be indicated due to the probe.)
2) Make sure that tracking indication appears at the nearly center of the width when manual tracking ON.

7-6. AUDIO SYSTEM ADJUSTMENT

[Connection]



(Should be input to L and R channels at a time.)

Fig. 7-13.

7-6-1. Hi-Fi Audio System Adjustment

Unless otherwise specified, set and adjust as follows.
Input selection ············Line 1
Audio monitor············Stereo

[Adjustment Sequence]

1) VCO fo adjustment
2) Band pass filter fo adjustment
3) Switching position adjustment
4) Hi-Fi/normal discrimination adjustment
5) Deviation adjustment
6) E-E output level confirmation
7) Overall level characteristic confirmation

1. VCO fo adjustment (HF-23 board)

Mode	Recording
Signal	No signal
Measurement Equipment	Frequency counter
1.3 MHz adjustment	
Measurement Equipment	Pin (79) of IC201
Adjustment Element	RV202
Specified Value	1.300 ± 0.002 MHz
1.7 MHz adjustment	
Measurement Point	Pin (69) of IC201
Adjustment Element	RV205
Specified Value	1.700 ± 0.002 MHz

Note: Connect the frequency counter through a buffer amplifier (oscilloscope, etc.) of high input impedance (1 MΩ or more) and low capacity (10 pF or less).

Adjustment Method:

1) Connect the frequency counter to Pin (79) [(69)] of IC201.
2) Adjust for 1.300 ± 0,002 MHz [1.700 ± 0.002 MHz] using RV202 [RV205].

2. Band-pass filter fo adjustment (HF-23 board)

Mode	Playback
Signal	Tape recorded in SP mode
Measurement Point	CH1: Pin (70) of IC201 CH2: Pin (78) of IC201
Measurement Equipment	Oscilloscope
Adjustment Element	RV204
Specified Value	A=B

Connection:

1) Remove CN003 on the MA-82 board and input 50 mVp-p, 1.5 MHz ± 2 kHz sine-wave from the signal generator to Pin ⑨ of CN016.

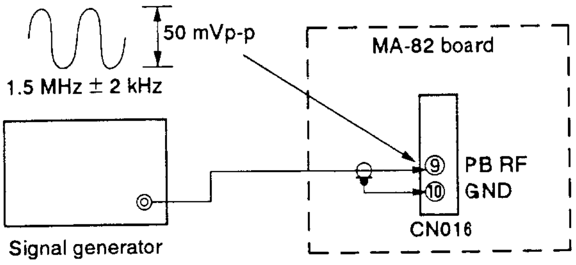


Fig. 7-14.

Adjustment Method:

1) Adjust so that the signal level of Pin (70) and (78) of IC201 are equal using RV204 (Signal level is approximately 300 mVp-p).

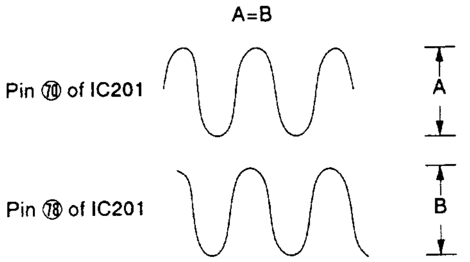


Fig. 7-15.

3. Switching position adjustment (MA-82 board)

Mode	Playback
Signal	Hi-Fi alignment tape
Measurement Point	CH1: Pin ⑤ of CN016 (AF SWP) CH2: Pin ⑭ of CN016 (RF monitor)
Measurement Equipment	Oscilloscope
Adjustment Element	RV502
Specified Value	Be sure that there is no lacking portion.

Adjustment Method:
1) Press tracking buttons ▲ and ▼ at a time.
2) Correct the lacking portion of RF signal using RV502.

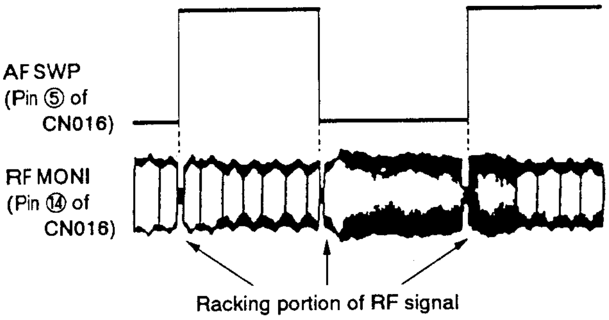


Fig. 7-16.

4. Hi-Fi/normal discrimination adjustment (MA-82 board)

Mode	Playback
Signal	Hi-Fi alignment tape
Measurement Point	CH1: Pin ⑤ of CN016 (AF SWP) CH2: Pin ⑭ of CN016 (RF monitor)
Measurement Equipment	Oscilloscope
Adjustment Element	RV401
Specified Value	300 ± 10 mVp-p

Adjustment Method:
1) Adjust the RF signal level to the maximum using the tracking buttons (▲ and ▼).
2) Adjust the RF signal level to 300 ± 10 mVp-p using RV401.
3) Shift the tracking until playback picture goes out of order and check the followings.
   1. "STEREO" lit at the tracking center on the fluorescent display should be disappeared.
   2. 400 Hz audio output should be eliminated and no audio output is obtained.
      (The playback noise of normal audio can be heard.)
   3. Abnormal noise should not be generated.

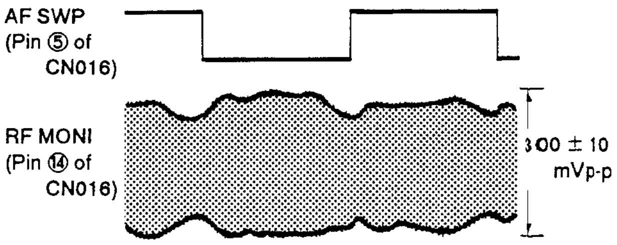


Fig. 7-17.

5. Deviation adjustment (HF-23 board)

The adjustment element of the right channel is indicated in [ ].

Mode	Playback
Signal	Hi-Fi alignment tape
Measurement Point	AUDIO LINE OUT left [right]
Measurement Equipment	Audio level meter
Adjustment Element	RV201 [RV206]
Specified Value	–7.5 ± 0.2 dBs

Adjustment Method:
1) Make sure that "STEREO" segment lights on the fluorescent display.
2) Adjust left [right] channel audio output level to –7.5 ± 0.2 dBs using RV201 [RV206].

6. E-E output level confirmation (HF-23 board)

The measurement point of the right channel is indicated in [ ].

Mode	E-E
Signal	400 Hz
Measurement Point	AUDIO LINE OUT terminal left [right]
Measurement Equipment	Audio level meter
Specified Value	-7.5 ± 2 dBs

Confirmation Method:

1) Connect the audio level meter to Pin ⑤ [⑰] of CN201.
2) Adjust audio generator output level so that 400 Hz signal level becomes -15.5 dBs.
3) Make sure that 400 Hz signal level of left [right] channel AUDIO LINE OUT terminal is -7.5 ± 0.2 dBs.
4) Make sure that REC level indication of left [right] channel on the front panel indicates 0 dB.

7. Overall level characteristic confirmation

The measurement point of the right channel is indicated in [ ].

Mode	Recording and playback
Signal	400 Hz
Measurement Point	AUDIO LINE OUT terminal: left [right]
Measurement Equipment	Audio level meter
Specified Value	-7.5 ± 0.2 dBs

Confirmation Method:

1) Adjust audio generator output level so that left [right] AUDIO LINE IN level is -7.5 ± 0.1 dBs.
2) Record signal.
3) Playback the recorded portion.
4) Make sure that left [right] channel AUDIO LINE OUT level is -7.5 ± 0.2 dBs.

7-6-2. Normal Audio System Adjustment (CA-46/47 board)

- Make adjustment in the SP mode.
- Set the audio monitor in normal (*1).
  *1: A condition in which "STEREO", "MAIN L" and "SUB R" do not appear on the fluorescent display in playback.

[Adjustment Sequence]

1) ACE head adjustment...See mechanism block adjustment.
2) Playback output level check
3) E-E output level check
4) Recording bias adjustment
5) Overall level characteristic and distortion factor check
6) Overall S/N check

1. ACE head adjustment

See "Mechanism Block Adjustment".

2. Playback output level check

Mode	Playback
Signal	Alignment tape, 1 kHz (color bar) portion
Measurement Point	AUDIO LINE OUT terminal
Measurement Equipment	Audio level meter
Specified Value	-7.5 ± 2 dBs

Confirmation Method:

1) Playback 1 kHz portion and make sure that AUDIO LINE OUT signal level is -7.5 ± 2 dBs.

3. E-E output level check (CA-46/47 board)

Mode	E-E
Signal	L, R: 400 Hz, -7.5 dBs
Measurement Point	AUDIO LINE OUT terminal
Measurement Equipment	Audio level meter
Specified Value	-7.5 ± 2 dBs

Confirmation Method:

1) Input signal of 400 Hz, -7.5 dBs simultaneously to both L and R channels of AUDIO LINE IN.
2) Make sure that AUDIO LINE OUT signal level is -7.5 ± 2 dBs.

4. Recording bias adjustment (CA-46/47 board)

Mode	Recording and playback (SP mode)
Signal	400 Hz, -30 dBs 7 kHz, -30 dBs
Measurement Point	AUDIO LINE OUT terminal
Measurement Equipment	Audio level meter
Adjustment Element	RV201
Specified Value	0 ± 3 dB

Note: Tape path adjustment should have been completed.

Adjustment Method:

1) Input signal of 400 Hz, -30 dBs simultaneously to both L and R channels of AUDIO LINE IN.
2) Make recording.
3) Set the AUDIO LINE IN signal to 7 kHz, -30 dBs and make recording.
4) Playback a recorded portion and measure output levels at 400 Hz and 7 kHz.
5) Confirm that the 7 kHz playback signal level is within a range of 0 ± 3 dB against the 400 Hz playback signal level . When beyond this range, adjust RV201 and repeat the steps (1) through (5).

5. Overall level characteristic and distortion factor check

Mode	Recording and playback (SP mode)
Signal	AUDIO LINE OUT terminal
Measurement Point	Audio level meter and distortion factor gauge
Measurement Equipment	Playback level:-7.5 ± 2 dBs
Specified Value	Distortion factor: 4% or less

Adjustment Method:

1) Input audio signal of 400 Hz, -7.5 dBs simultaneously to both L and R channels of AUDIO LINE IN.
2) Make recording.
3) Playback the recorded portion.
4) Make sure that playback level is -7.5 ± 2 dBs.
5) Make sure that distortion factor is within 4%.

6. Overall S/N check

Mode	Recording and playback (SP mode)
Signal	400 Hz, -7.5 dBs and no signal
Measurement Point	AUDIO LINE OUT terminal
Measurement Equipment	Audio level meter
Specified Value	35 dB or more

Confirmation Method:

1) Input signal of 400 Hz, -7.5 dBs simultaneously to both L and R channels of AUDIO LINE IN.
2) Make recording.
3) Make no signal input with recording mode kept.
4) Playback the recorded portion and make sure that the difference between 400 Hz portion and no signal portion (A portion right after 400 Hz signal) is should be more than 35 dB.

7-7. TUNER SYSTEM ADJUSTMENT

7-7-1. RF AGC Adjustment (TU-130 Board)

Signal	Broad cast TV signal
Adjustment Element	RV002

Adjustment Method:

1) Adjust the monitor TV to a maximum contrast.
2) Turn the VR002 to make snow noise visible.
3) Turn the VR002 in an opposite direction and set it to the point where the snow noise disappears.
4) Receive each channel and confirm that there are no beat picture or snow noise due to cross modulation.

7-7-2. Audio Multiple Recorder Adjustment

1. Stereo filter and VCO adjustment (TU-130 board)

[Connection]

1) Connect the audio generator, frequency counter, 10 μF capacitor and 600Ω resistor as follows.
2) Tuner should be received no signal.

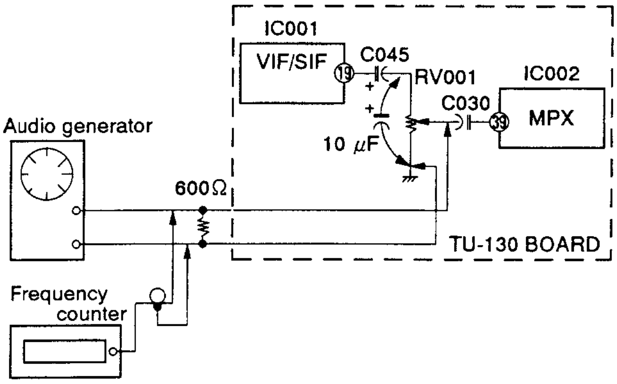


Fig. 7-18

1-1. Stereo filter adjustment

Signal	22.9 kHz, 700 mVp-p
Measurement Point	Pin ㊱ of IC002
Measurement Equipment	Oscilloscope
Adjustment Element	RV071
Specified Value	4 mVp-p or less

Adjusting Method:

1) Connect the oscilloscope to Pin ㊴ of IC002
2) Adjust audio generator output level so that signal level of 22.9 kHz becomes 700 mVp-p.
3) Connect the oscilloscope to Pin ㊱ of IC002
4) Make signal level of 22.9 kHz minimum using RV071.

1-2. VCO adjustment

Signal	15.734 kHz, 140 mVp-p
Measurement Point	Pin ㊵ of IC002
Measurement Equipment	Oscilloscope (DC range)
Adjustment Element	RV072
Specified Value	The volt difference should be 0 ± 0.1 Vdc against when no signal input.

Adjustment Method:

1) Connect the oscilloscope to Pin ㊴ of IC002.
2) Adjust audio generator output level so that signal level of 15.734 kHz becomes 140 mVp-p.
3) Connect the oscilloscope to Pin ㊵ of IC002. (The oscilloscope is DC range.)
4) Turn the audio generator OFF and measure DC level. (DC level in no signal is approximately 4.5 Vdc.)
5) Turn the audio generator ON.
6) Make DC level equal to that in no signal using RV072.
7) Make sure that Pin ⑥ of CN001 ($\overline{\text{STEREO}}$) is "L" level.

2. Separation adjustment (TU-130 board)

Make adjustment by connecting the audio multiple signal generator to VHF/UHF input terminal.

2-1. MPX input level rough adjustment

Signal	Monaural RF signal (400 Hz, 100% MOD)
Measurement Point	Pin ㊴ of IC002
Measurement Equipment	Oscilloscope
Adjustment Element	RV001
Specified Value	693 ± 25 mVp-p (–10 ± 1 dBs)

Adjustment Method:
1) Set for 693 ± 25 mVp-p using RV001.

2-2. Separation rough adjustment

Signal	Stereo RF signal (L: 400 Hz, R: 2 kHz 30% MOD)
Measurement Point	R: Pin ④ of CN002 L: Pin ⑥ of CN002
Measurement Equipment	Oscilloscope
Adjustment Element	R: RV073 L: RV070
Specified Value	Cross talk component is minimum.

Adjustment Method:
1) Connect the oscilloscope to Pin ④ of CN002
2) Make cross talk component (400 Hz) mixed to 2 kHz signal minimum using RV073.
3) Connect the oscilloscope to Pin ⑥ of CN002
   Make cross talk component (2 kHz), mixed to 400 Hz signal, minimum using RV070.
4) Repeat steps 1) through 3). (The procedure should be ended at 3).)

2-3. Separation fine adjustment

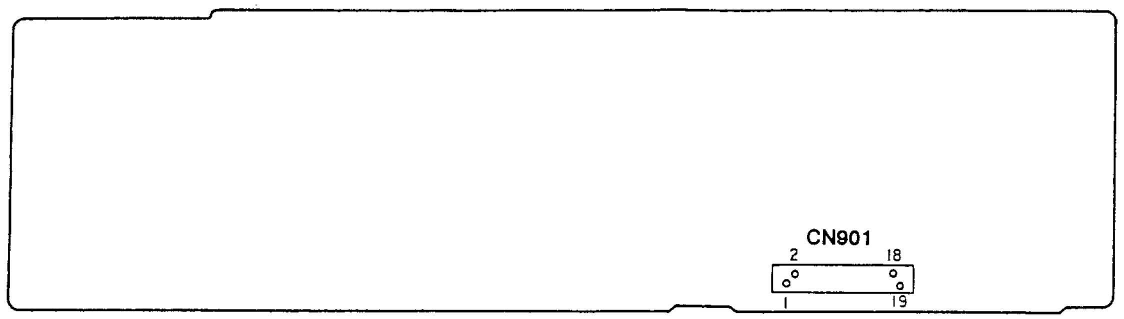
Signal	Stereo RF signal (L: 400 Hz, R: 2 kHz 30% MOD)
Measurement Point	R: Pin ④ of CN002 L: Pin ⑥ of CN002
Measurement Equipment	Oscilloscope
Adjustment Element	R: RV001 L: RV070
Specified Value	Cross talk component is minimum.

Adjustment Method:
1) Connect the oscilloscope to Pin ④ of CN002
2) Make cross talk component (400 Hz), mixed to 2 kHz signal, minimum using RV001.
3) Connect the oscilloscope to Pin ⑥ of CN002
4) Make cross talk component (2 kHz), mixed to 400 Hz signal, minimum using RV070.
5) Make sure that the cross talk component of Pin ④ and ⑥.

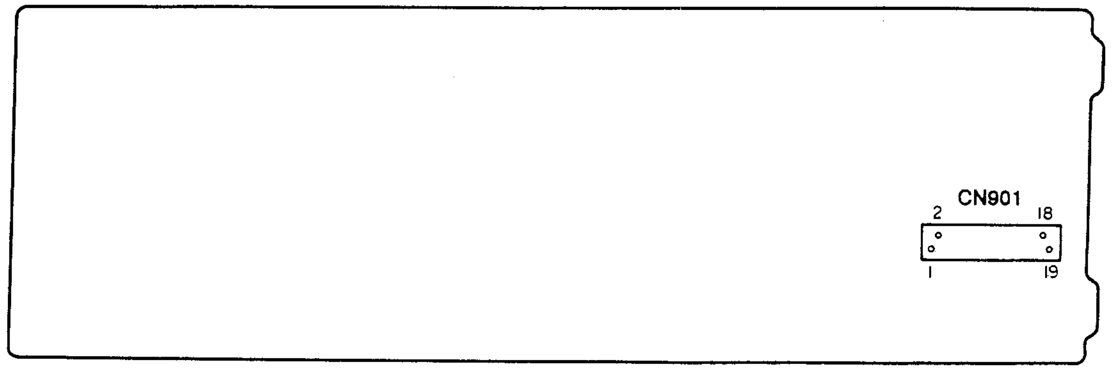
* If this adjustment can not be succeeded, repeat steps from "Separation rough adjustment". (The procedure should be stopped at "Separation fine adjustment" 5.)

7-8. ARRANGEMENT DIAGRAM FOR ADJUSTMENT PARTS

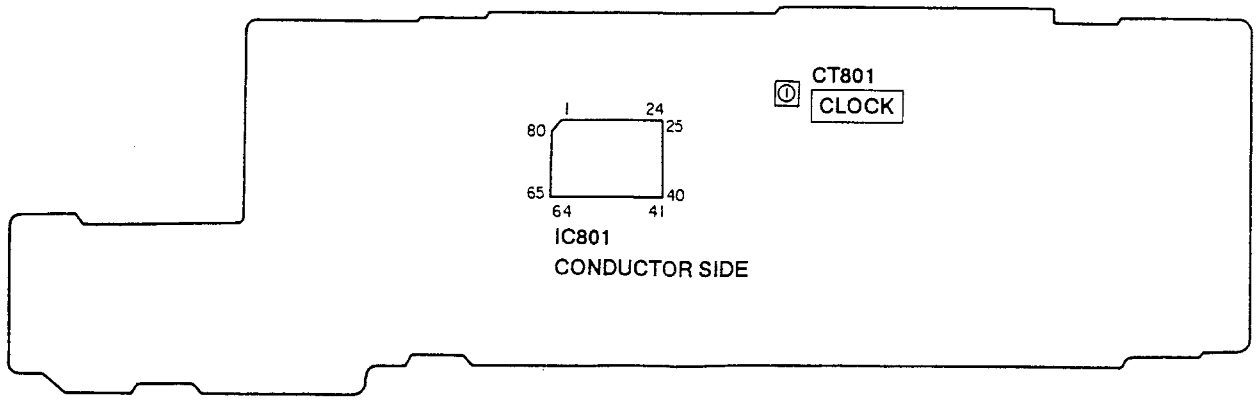
PS-274 BOARD (CONDUCTOR SIDE)
(SLV-585HF/686HF: U/C ONLY)



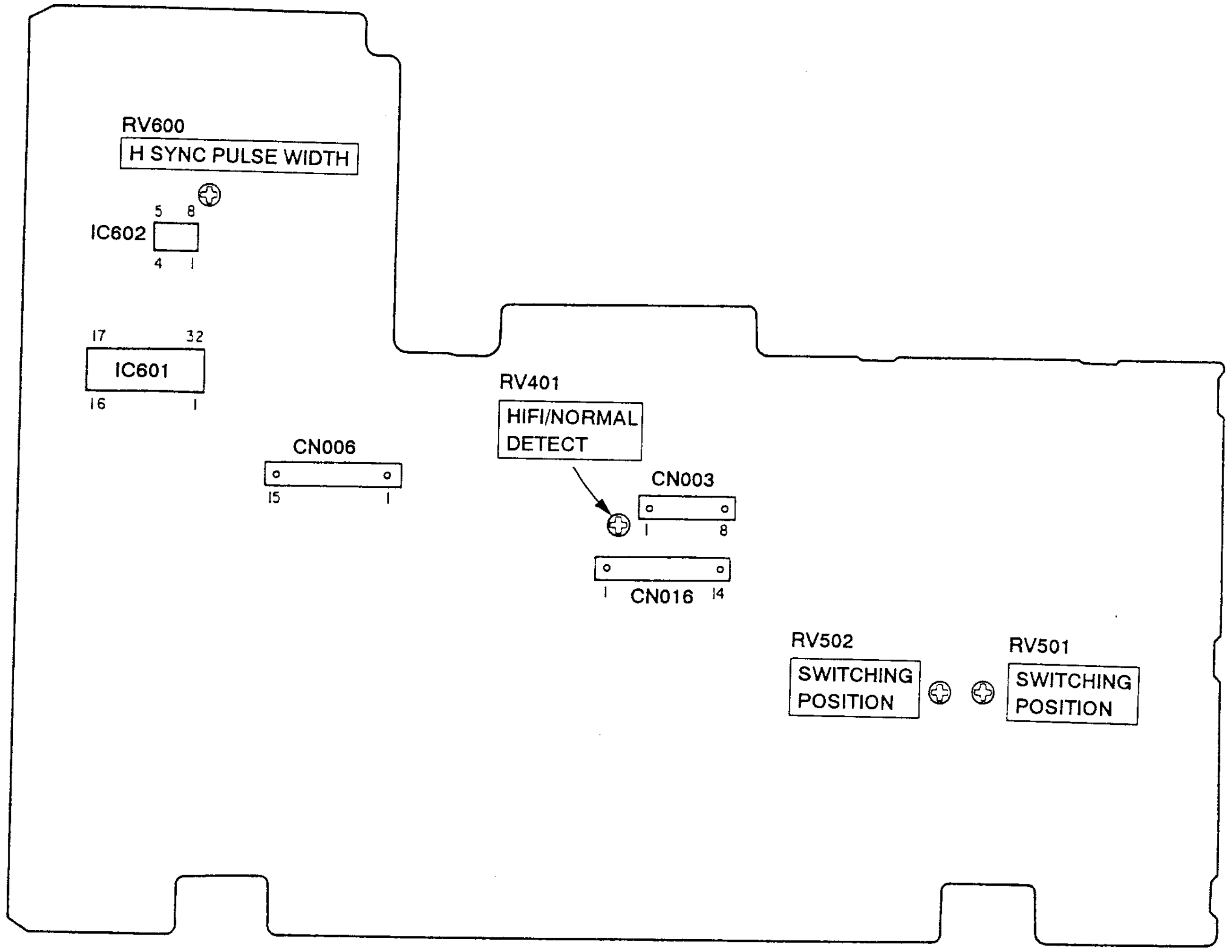
POWER BLOCK (CONDUCTOR SIDE)



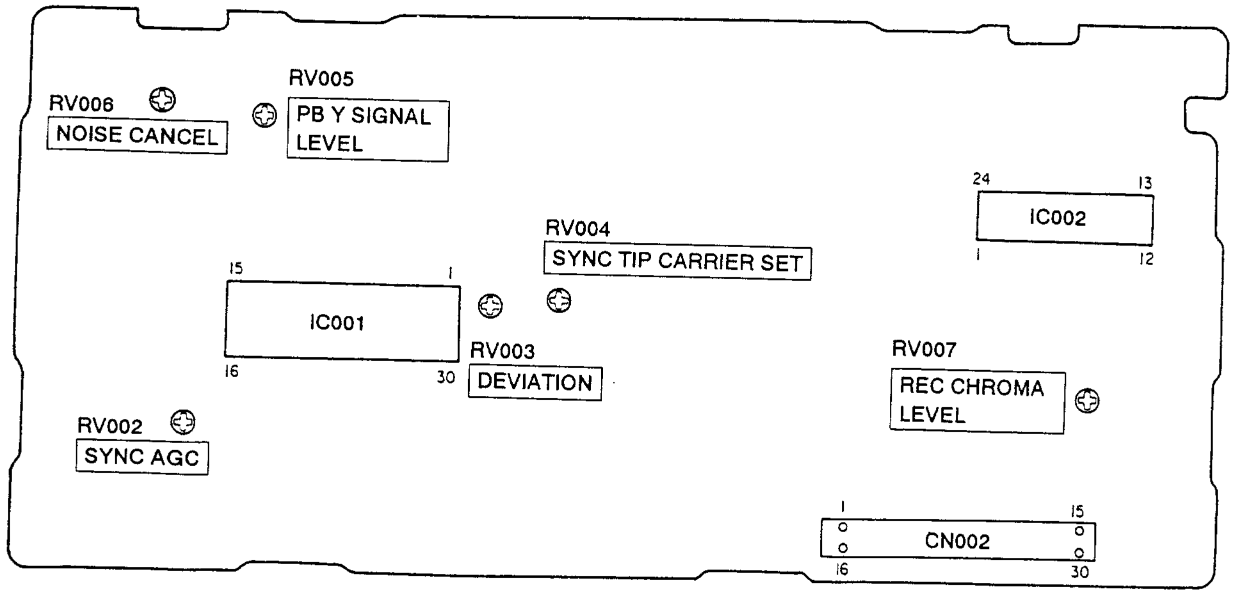
MF-122 BOARD (COMPONENT SIDE)



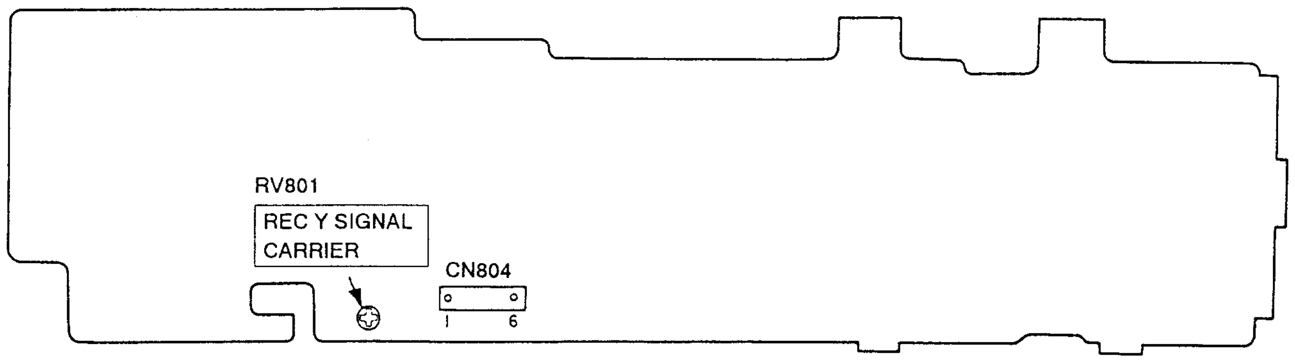
MA-82 BOARD (CONDUCTOR SIDE)


RV600
H SYNC PULSE WIDTH
5 8
IC602
4 1
17 32
IC601
16 1
CN006
15 1
RV401
HIFI/NORMAL DETECT
CN003
1 8
1 CN016 14
RV502
SWITCHING POSITION
RV501
SWITCHING POSITION

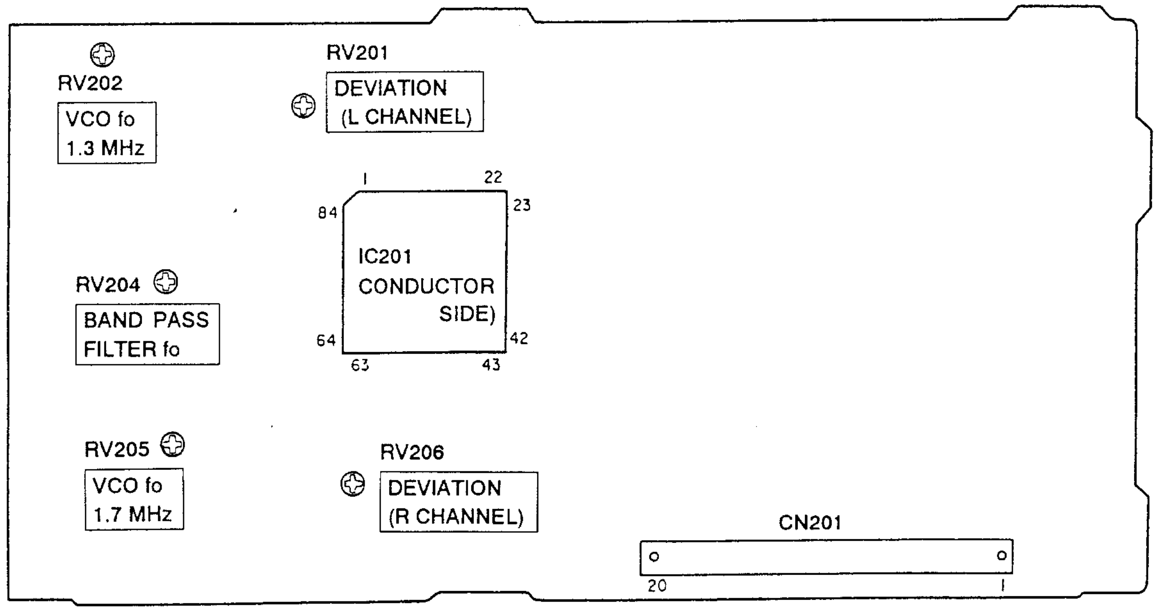
YC-112 BOARD (COMPONENT SIDE)


RV006
NOISE CANCEL
RV005
PB Y SIGNAL LEVEL
24 13
IC002
1 12
RV004
SYNC TIP CARRIER SET
15 1
IC001
16 30
RV003
DEVIATION
RV007
REC CHROMA LEVEL
RV002
SYNC AGC
1 15
CN002
16 30

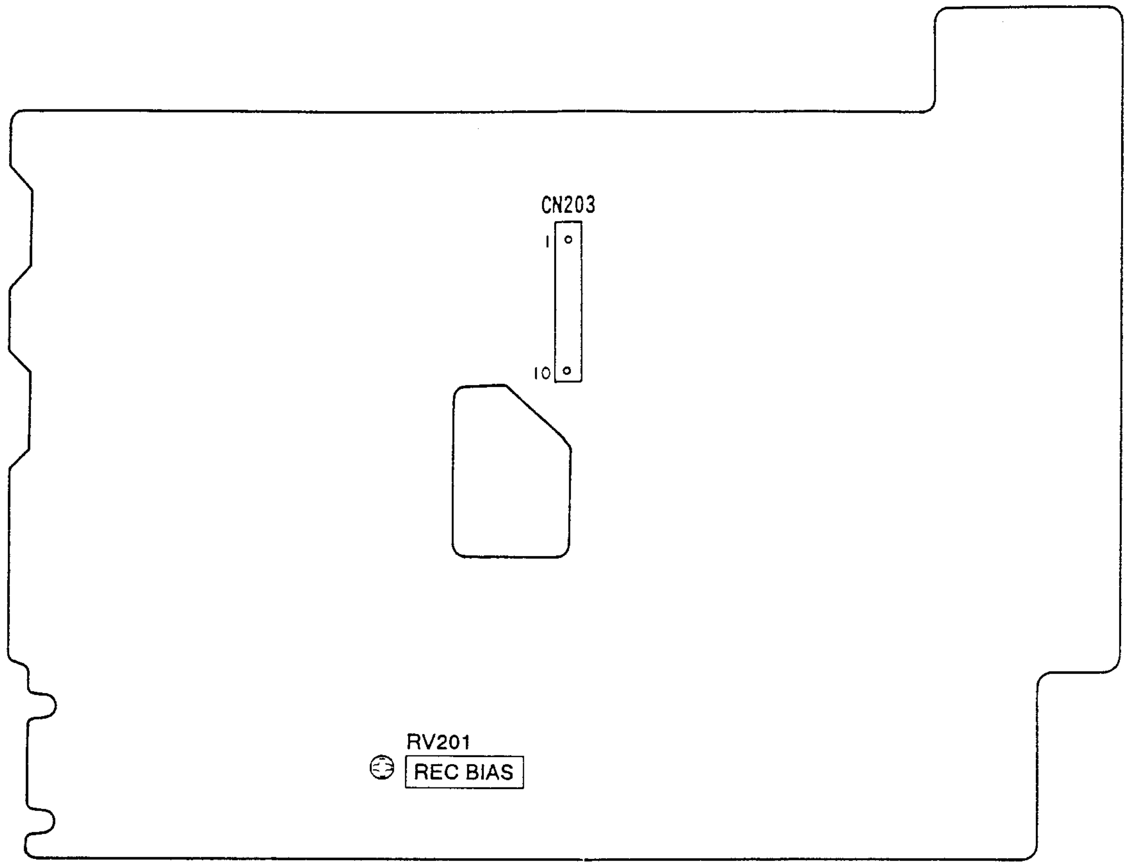
RP-112/128 BOARD (COMPONENT SIDE)


RV801
REC Y SIGNAL CARRIER
CN804
1
6

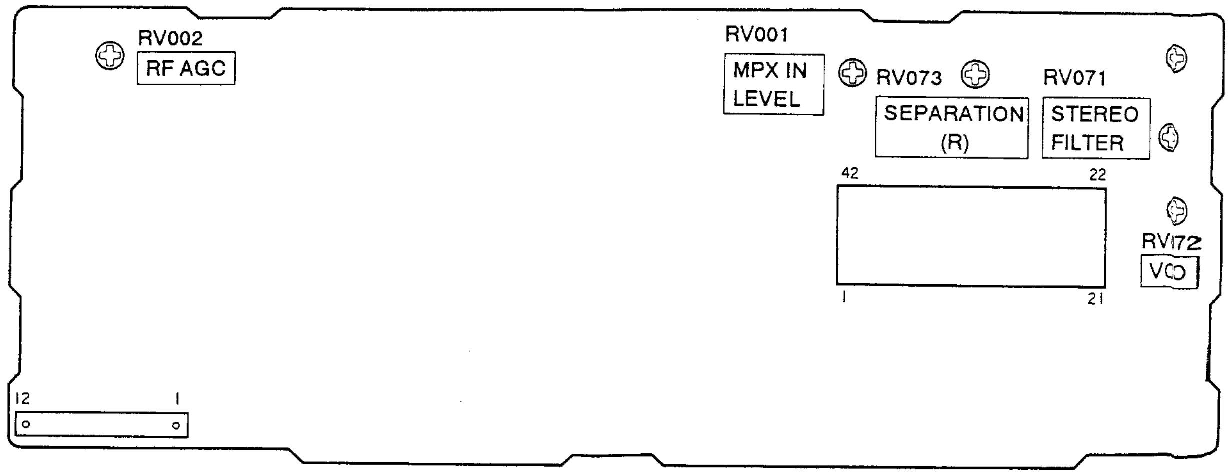
HF-23 BOARD (COMPONENT SIDE)


RV202
VCO fo 1.3 MHz
RV201
DEVIATION (L CHANNEL)
1
22
84
23
IC201 CONDUCTOR SIDE)
64
42
63
43
RV204
BAND PASS FILTER fo
RV205
VCO fo 1.7 MHz
RV206
DEVIATION (R CHANNEL)
CN201
20
1

CA-46/47 BOARD (COMPONENT SIDE)


CN203
1
10
RV201
REC BIAS

TU-130 BOARD (COMPONENT SIDE)


RV002
RF AGC
RV001
MPX IN LEVEL
RV073
SEPARATION (R)
RV071
STEREO FILTER
42
22
1
21
RV172
VCO
12
1

SLV-71HF/585HF/589HF/686HF

RMT-V102/V102A/V112

SONY

SERVICE MANUAL

US Model
SLV-585HF/686HF
Canadian Model
SLV-585HF/589HF/686HF
Taiwan Model
SLV-71HF
Mexican Model
SLV-686HF
PX Model
SLV-585HF

SUPPLEMENT-1

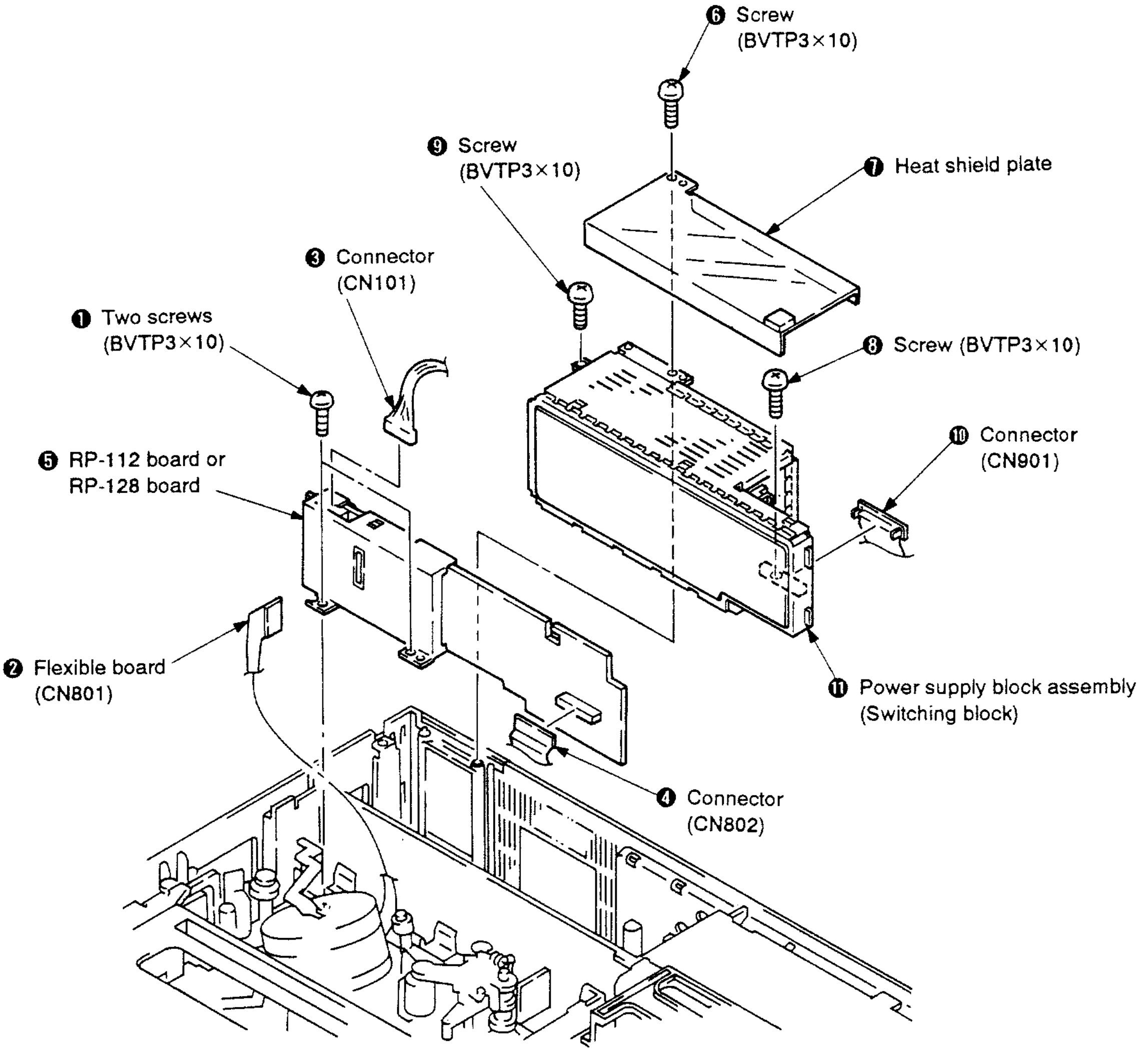
Use together with the service manual already issued.

- **Circuits of the power supplies are changed.**
  Each change is performed from the serial numbers as follows.

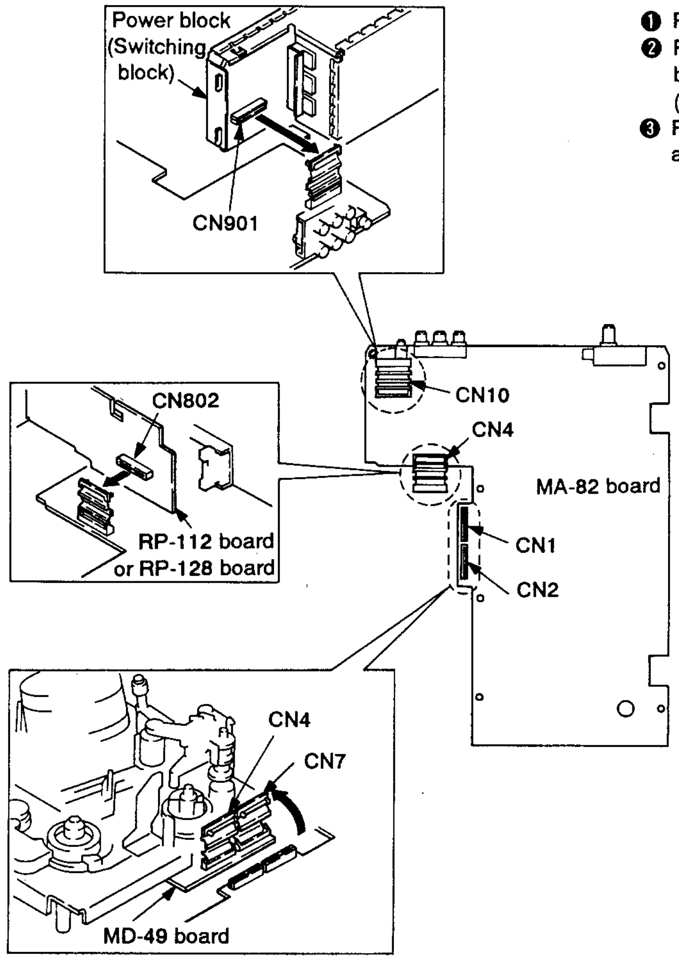
SLV-585HF; US/686HF; US MODEL: serial No. 1,000,001 later.
SLV-585HF; CND/686HF; CND MODEL: serial No. 900,001 later.
SLV-585HF; PX/686HF; MX/589HF/71HF: serial No. 10,001 later.

SECTION 2
DISASSEMBLY

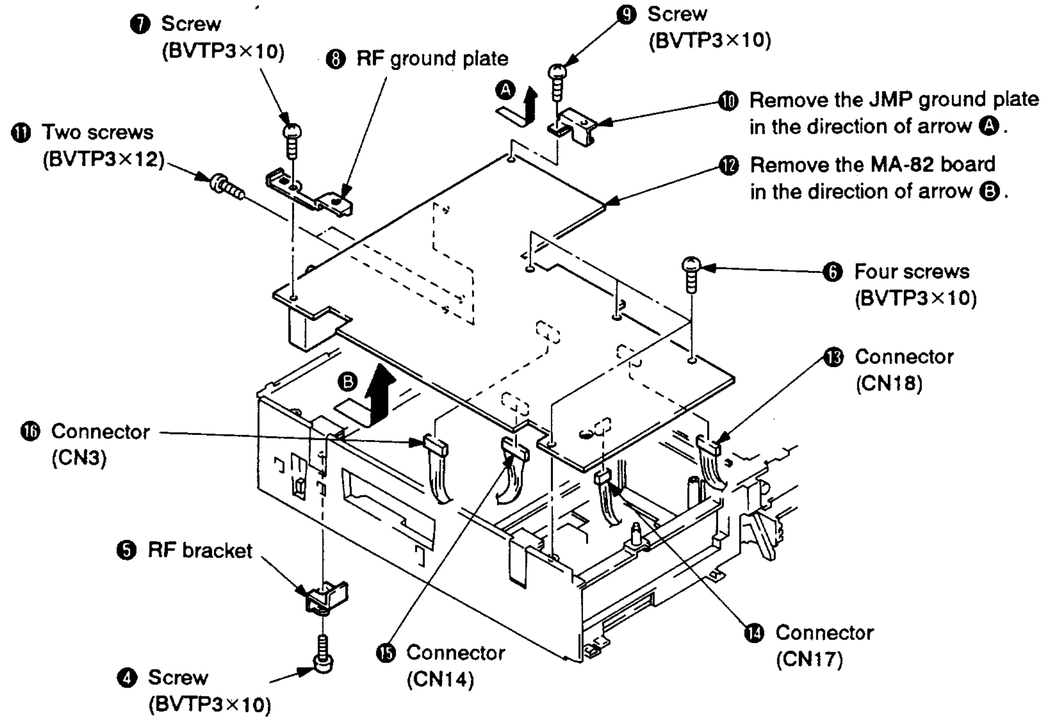
2-7. REMOVAL OF RP-112 OR RP-128 BOARD AND POWER SUPPLY BLOCK ASSEMBLY (SWITCHING BLOCK)


❻ Screw
(BVTP3×10)
❾ Screw
(BVTP3×10)
❼ Heat shield plate
❸ Connector
(CN101)
❶ Two screws
(BVTP3×10)
❽ Screw (BVTP3×10)
❿ Connector
(CN901)
❺ RP-112 board or
RP-128 board
❷ Flexible board
(CN801)
⓫ Power supply block assembly
(Switching block)
❹ Connector
(CN802)

2-8. REMOVAL OF MA-82 BOARD


Power block
(Switching block)
CN901
CN10
CN4
MA-82 board
CN1
CN2
CN802
RP-112 board
or RP-128 board
CN4
CN7
MD-49 board

❶ Remove the MF-122 board according to 2-2.
❷ Remove the TU-130, HF-23 and YC-112 boards according to 2-4.
(Also remove the heat shield plate (MA).)
❸ Remove four connectors (CN1, CN2, CN4 and CN10) from MA-82 board.



❼ Screw
(BVTP3×10)

❽ RF ground plate

❾ Screw
(BVTP3×10)

⓫ Two screws
(BVTP3×12)

❿ Remove the JMP ground plate in the direction of arrow Ⓐ.

⓬ Remove the MA-82 board in the direction of arrow Ⓑ.

❻ Four screws
(BVTP3×10)

⓭ Connector
(CN18)

⓰ Connector
(CN3)

❺ RF bracket

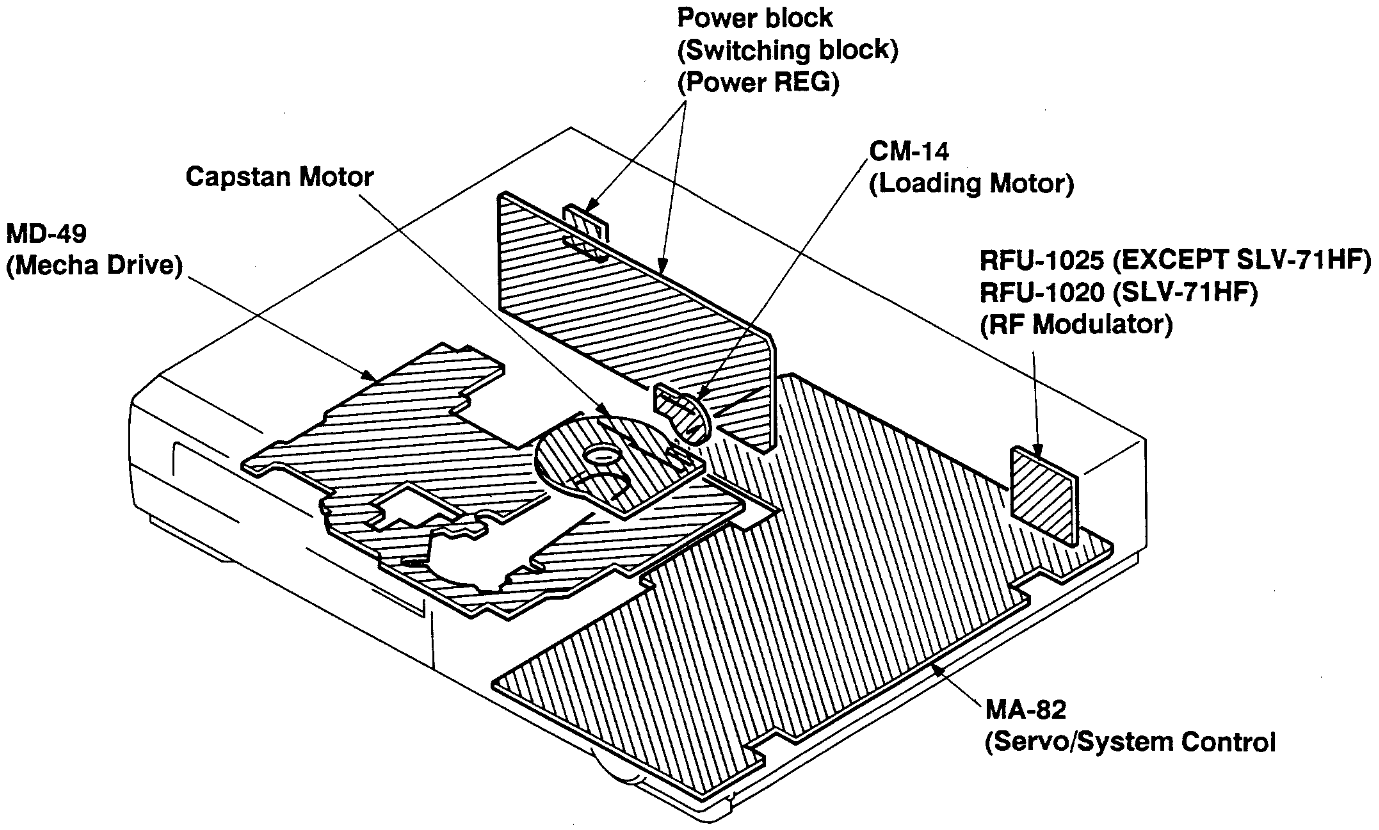
⓮ Connector
(CN17)

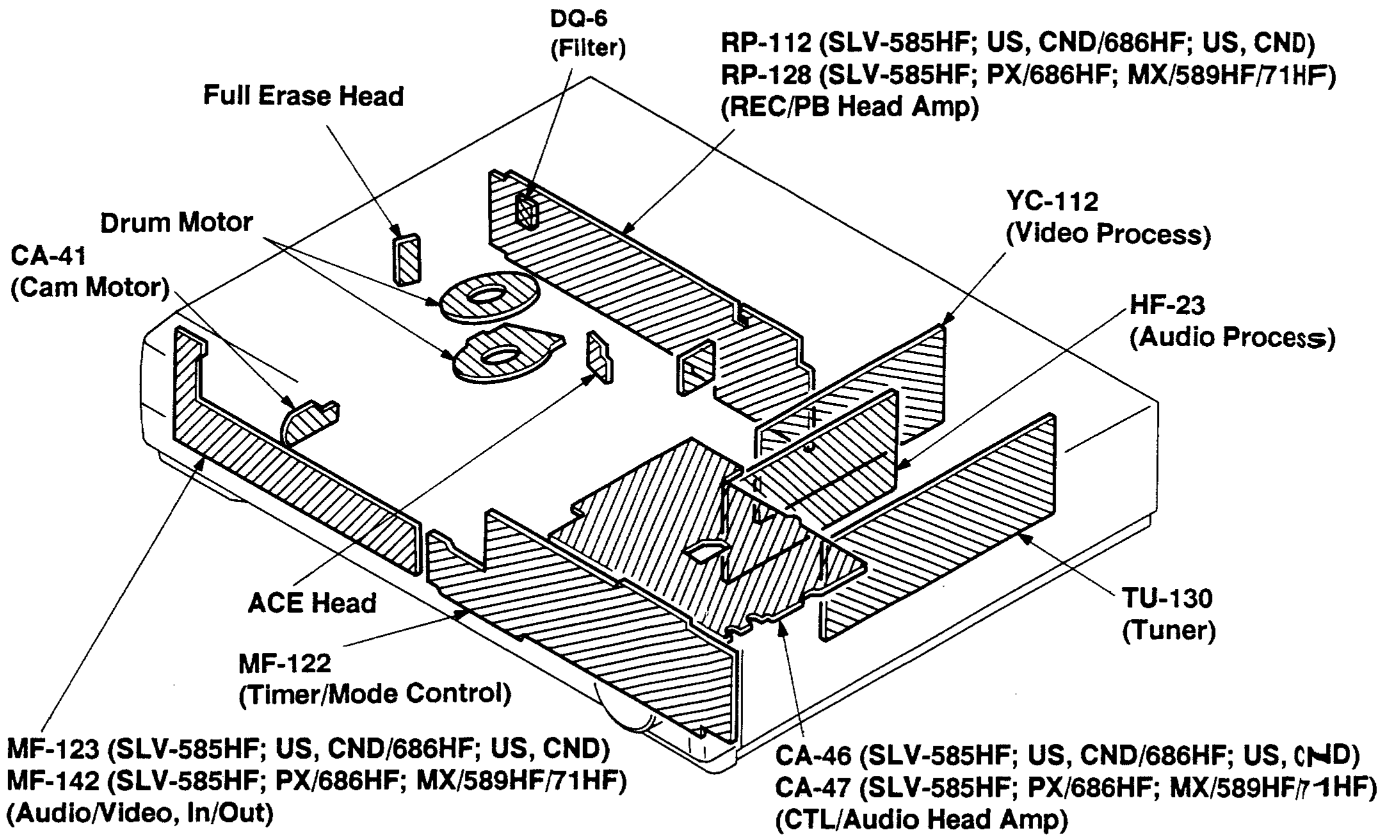
⓯ Connector
(CN14)

❹ Screw
(BVTP3×10)

SECTION 3
DIAGRAMS

3-1. CIRCUIT BOARDS LOCATION


Power block
(Switching block)
(Power REG)
Capstan Motor
CM-14
(Loading Motor)
MD-49
(Mecha Drive)
RFU-1025 (EXCEPT SLV-71HF)
RFU-1020 (SLV-71HF)
(RF Modulator)
MA-82
(Servo/System Control


DQ-6
(Filter)
RP-112 (SLV-585HF; US, CND/686HF; US, CND)
RP-128 (SLV-585HF; PX/686HF; MX/589HF/71HF)
(REC/PB Head Amp)
Full Erase Head
YC-112
(Video Process)
Drum Motor
CA-41
(Cam Motor)
HF-23
(Audio Process)
TU-130
(Tuner)
ACE Head
MF-122
(Timer/Mode Control)
MF-123 (SLV-585HF; US, CND/686HF; US, CND)
MF-142 (SLV-585HF; PX/686HF; MX/589HF/71HF)
(Audio/Video, In/Out)
CA-46 (SLV-585HF; US, CND/686HF; US, CND)
CA-47 (SLV-585HF; PX/686HF; MX/589HF/71HF)
(CTL/Audio Head Amp)

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this , the necessary note is printed in each block.)

- **For printed wiring boards.**
- ○— : indicated a lead wire mounted on the component side.
- —— : indicated a lead wire mounted on the conductor side.
- ● : Through hole.
- ■ : Parts mounted on the conductor side.
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.
- Circled numbers refer to waveforms.

Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component side)	Parts on the parts face side seen from the pattern face are indicated.

- **For schematic diagrams.**
- Caution when replacing chip parts.
  New parts must be attached after removal of chip.
  Be careful not to heat the minuts side of tantalum capacitor, because it is damaged by the heat.
- All resistors are in ohms, 1/4W unless otherwise noted.
  Chip resistor are 1/10W unless otherwise noted.
  kΩ : 1000Ω , MΩ : 1000kΩ .
- All capacitors are in μF unless otherwise noted. pF: μμF.
  50V or less are not indicated except for electrolytics and tantalums.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : nonflammable resistor.
- : fusible resistor.
- ☐ : panel designation.
- △ : internal component.
- ☐ : adjustment for repair.
- —— : B+ Line.
- - - - : B– Line.
- ⇨ : IN/OUT direction of (+, –) B LINE.
- Circled numbers refer to waveforms.
- Voltages are dc between ground and measurement points.
- Readings are taken with a color-bar signal input.
- Readings are taken with a digital multimeter (DC10MΩ).
- Voltages are taken with a VOM (Input impedance 10MΩ).
- Voltage variations may be noted due to normal production tolerances.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safty. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

SW POWER BLOCK

CN901	B-8
D101	A-2
D102	A-3
D103	C-3
D104	C-3
D105	C-3
D106	C-3
D107	C-3
D108	C-3
D109	B-4
D201	A-5
D202	B-6
D203	B-5
D204	B-5
D205	B-5
D206	B-5
IC201	C-7
IC202	B-7
IC203	A-7
IC204	A-8
IC205	C-5
Q101	B-4
Q102	C-3
Q201	A-8
Q202	A-6
SCR201	A-5

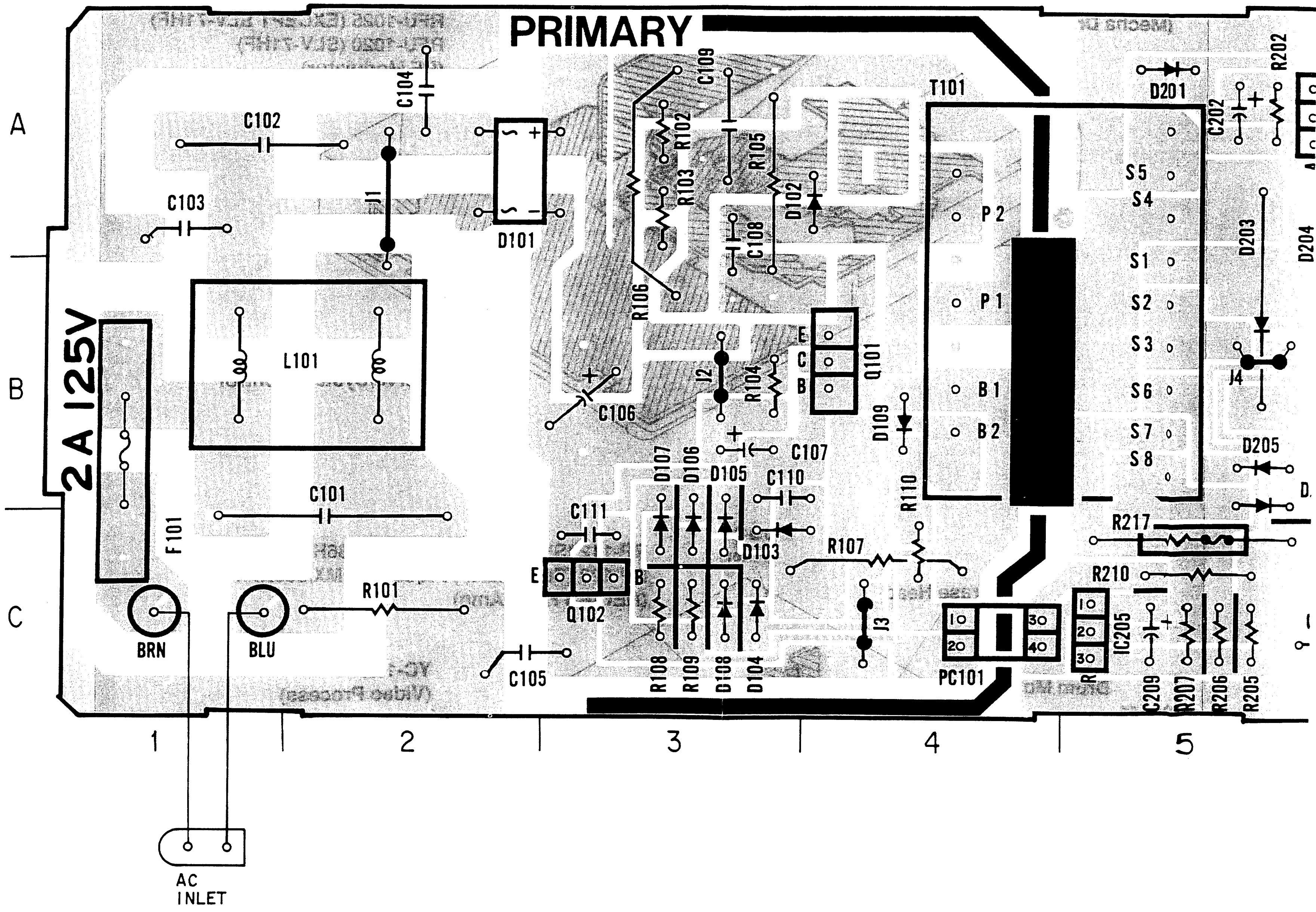
SECTION 4

PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

SW POWER BLOCK (EXCEPT: SLV-585HF (PX)) PRINTED WIRING BOARD

— Ref. No. SW POWER BLOCK (EXCEPT: SLV-585HF (PX)): 9000 series —

SWITCHING POWER BLOCK

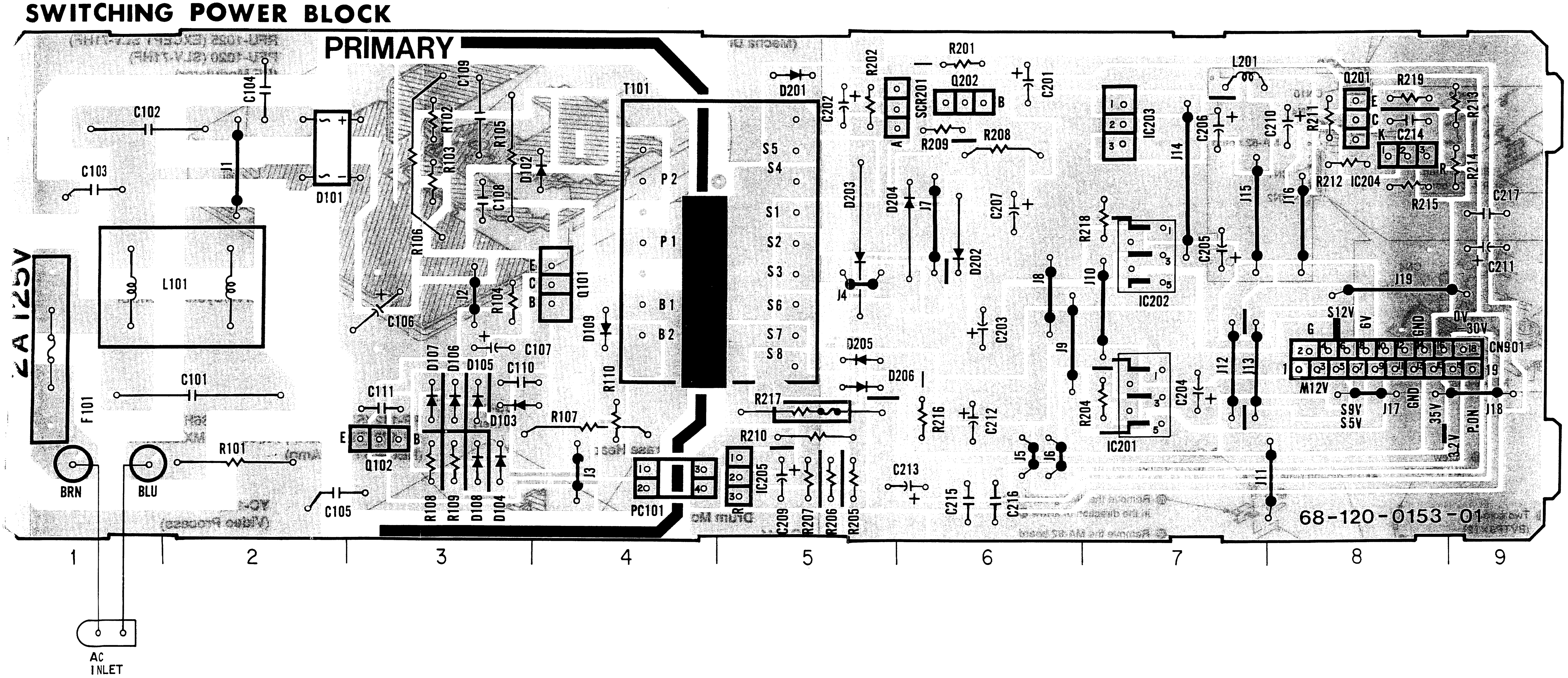

PRIMARY
A
B
C
1
2
3
4
5
2A 125V
F101
BRN
BLU
AC INLET
C101
C102
C103
C104
C105
C106
C107
C108
C109
C110
C111
D101
D102
D103
D104
D105
D106
D107
D108
D109
D201
D203
D204
D205
J1
J2
J3
J4
L101
Q101
Q102
E
C
B
R101
R102
R103
R104
R105
R106
R107
R108
R109
R110
R202
R205
R206
R207
R210
R217
C202
C209
IC205
PC101
T101
P1
P2
B1
B2
S1
S2
S3
S4
S5
S6
S7
S8
10
20
30
40

SECTION 4

PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

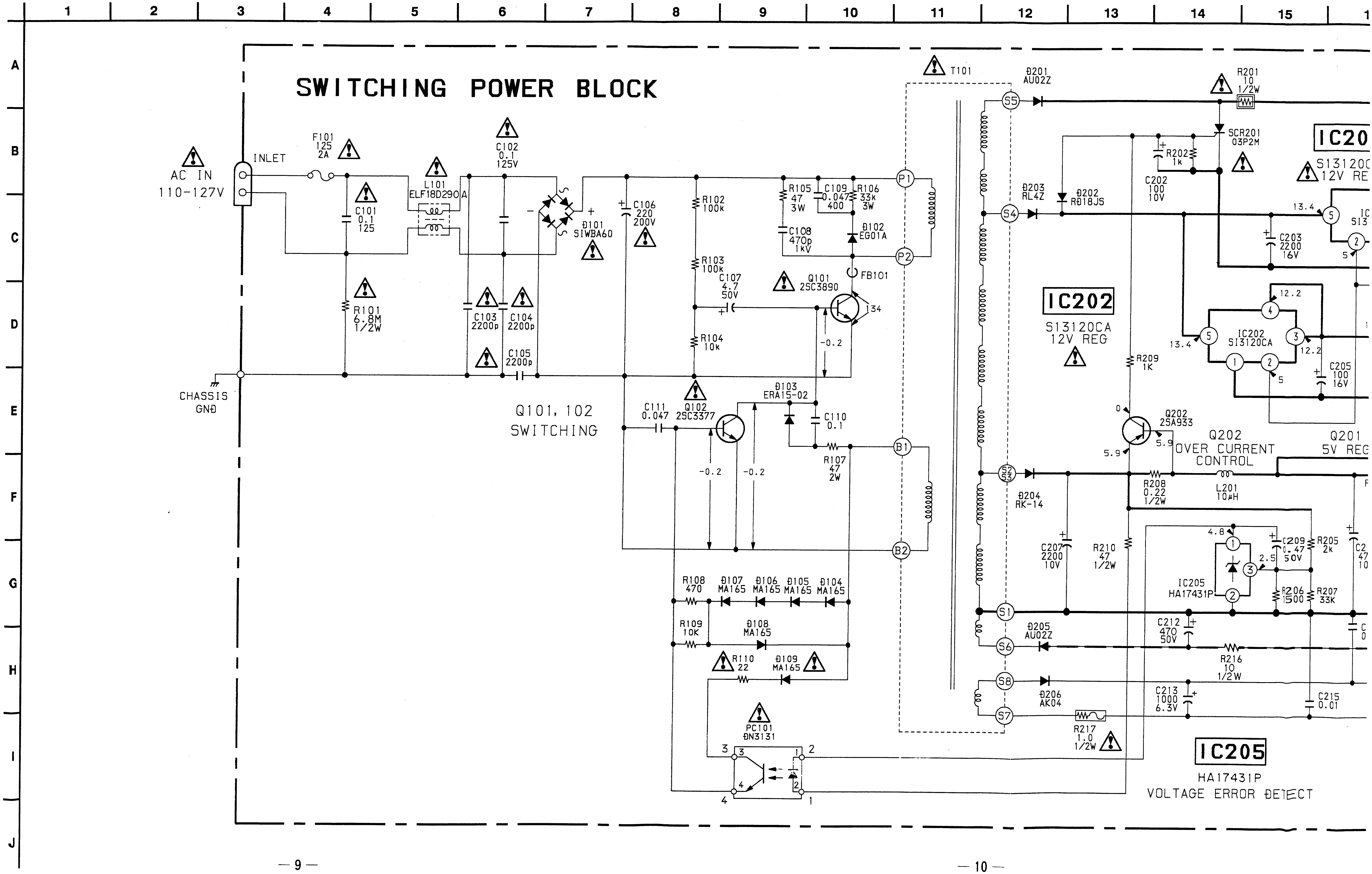
SW POWER BLOCK (EXCEPT: SLV-585HF (PX)) PRINTED WIRING BOARD

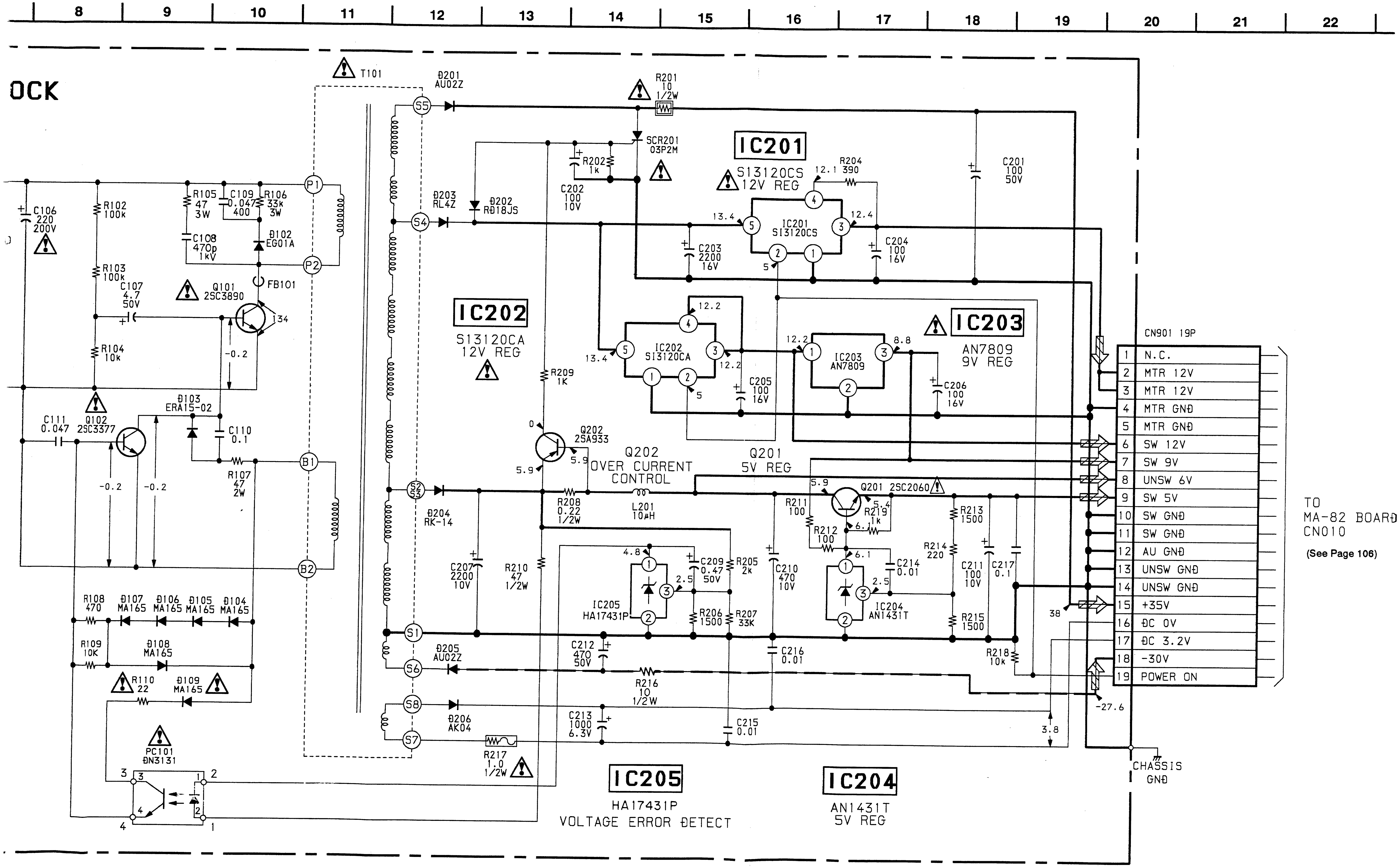
— Ref. No. SW POWER BLOCK (EXCEPT: SLV-585HF (PX)): 9000 series —


SWITCHING POWER BLOCK
PRIMARY
C102
C103
C104
J1
D101
L101
F101
C101
R101
BRN
BLU
AC
INLET
C105
C106
R106
R102
R103
C109
R105
C108
D102
Q101
E
C
B
J2
R104
C107
D109
C110
D107
D106
D105
C111
Q102
D103
R107
R110
J3
R108
R109
D108
D104
PC101
T101
P2
P1
B1
B2
S5
S4
S1
S2
S3
S6
S7
S8
D201
R217
R210
IC205
C209
R207
R206
R205
C202
R202
SCR201
A
R201
Q202
R209
R208
C201
D203
J4
D204
J7
D202
C207
D205
D206
R216
C212
C203
C213
C215
C216
J5
J6
J8
J9
J10
R218
IC202
R204
IC201
IC203
J14
C206
C205
C204
J12
J13
J11
L201
C210
J15
J16
R211
Q201
R219
R213
C214
K
R212
IC204
R214
R215
C217
C211
J19
S12V
G
6V
GND
0V
30V
CN901
M12V
S9V
S5V
J17
GND
35V
32V
P.ON
J18
20
19
1
68-120-0153-01
1
2
3
4
5
6
7
8
9

SW POWER BLOCK (EXCEPT: SLV-585HF (PX)) SCHEMATIC DIAGRAM

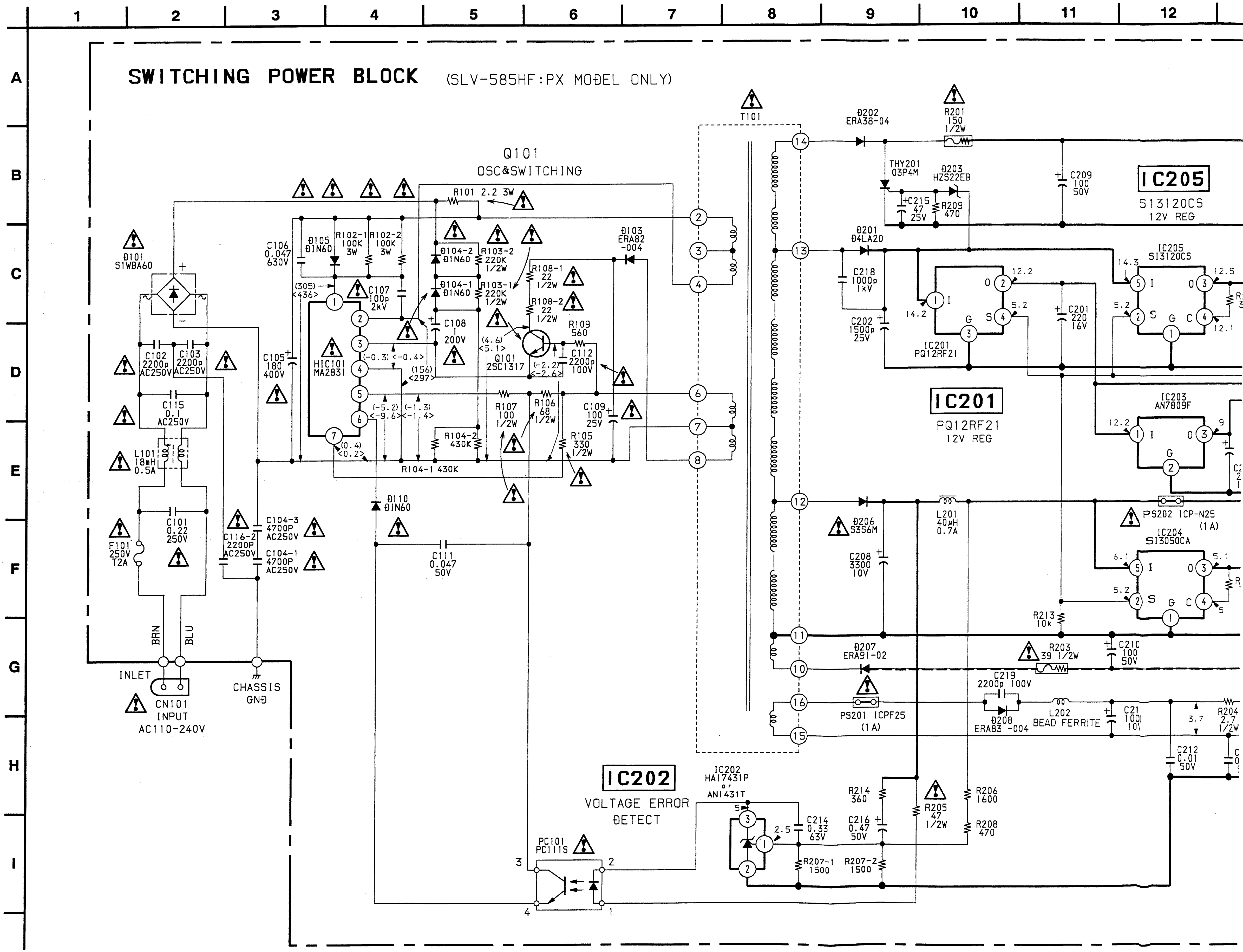
— Ref. No. SW POWER BLOCK (EXCEPT: SLV-585HF (PX)): 9000 series —

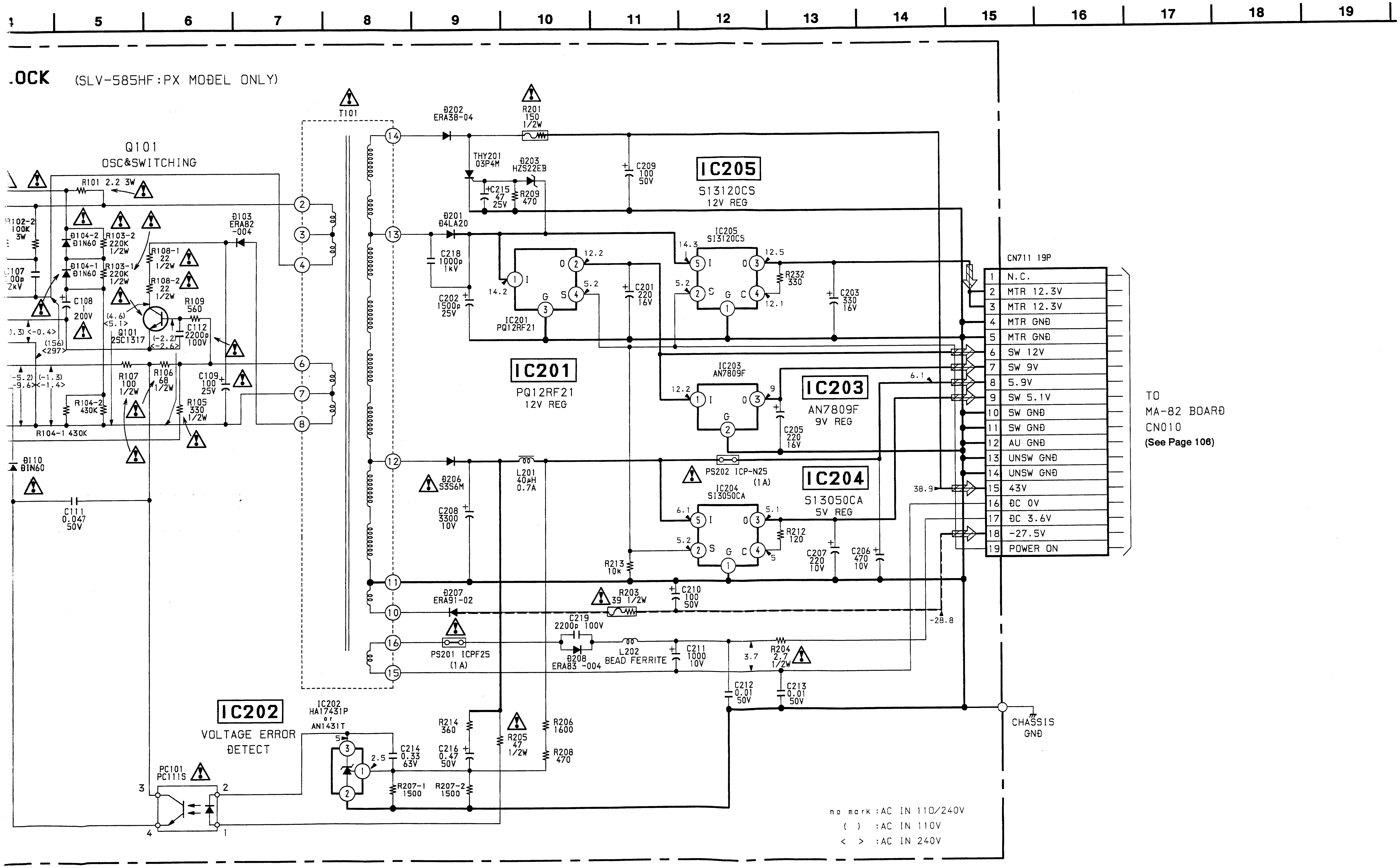

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
I
J
SWITCHING POWER BLOCK
AC IN
110-127V
INLET
F101
125
2A
C101
0.1
125
R101
6.8M
1/2W
CHASSIS
GND
L101
ELF18D290A
C102
0.1
125V
C103
2200p
C104
2200p
C105
2200p
D101
S1WBA60
C106
220
200V
R102
100k
R103
100k
R104
10k
C107
4.7
50V
Q101, 102
SWITCHING
C111
0.047
Q102
2SC3377
-0.2
-0.2
-0.2
R105
47
3W
C109
0.047
400
R106
33k
3W
C108
470p
1kV
D102
EG01A
FB101
Q101
2SC3890
134
D103
ERA15-02
C110
0.1
R107
47
2W
R108
470
D107
MA165
D106
MA165
D105
MA165
D104
MA165
R109
10K
D108
MA165
R110
22
D109
MA165
PC101
ON3131
3
2
4
1
T101
P1
P2
B1
B2
S5
S4
S2
S3
S1
S6
S8
S7
D201
AU02Z
D203
RL4Z
D202
RD18JS
IC202
S13120CA
12V REG
D204
RK-14
C207
2200
10V
R210
47
1/2W
D205
AU02Z
D206
AK04
R217
1.0
1/2W
R201
10
1/2W
SCR201
03P2M
R202
1k
C202
100
10V
IC20
S13120
12V RE
13.4
C203
2200
16V
5
12.2
IC202
S13120CA
13.4
12.2
5
C205
100
16V
R209
1K
0
Q202
2SA933
5.9
5.9
Q202
OVER CURRENT
CONTROL
Q201
5V REG
R208
0.22
1/2W
L201
10μH
4.8
C209
0.47
50V
R205
2k
2.5
IC205
HA17431P
R206
1500
R207
33K
C212
470
50V
R216
10
1/2W
C213
1000
6.3V
C215
0.01
IC205
HA17431P
VOLTAGE ERROR DETECT


8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
OCK
T101
D201 AU02Z
R201 10 1/2W
SCR201 03P2M
IC201
S13120CS 12V REG
R204 390
R202 1k
C202 100 10V
C201 100 50V
C106 220 200V
R102 100k
R105 47 3W
C109 0.047 400
R106 33k 3W
C108 470p 1kV
D102 EG01A
R103 100k
C107 4.7 50V
Q101 2SC3890
FB101
R104 10k
D203 RL4Z
D202 RD18JS
C203 2200 16V
C204 100 16V
IC201 S13120CS
IC202
S13120CA 12V REG
IC202 S13120CA
IC203
AN7809 9V REG
IC203 AN7809
C205 100 16V
C206 100 16V
D103 ERA15-02
C110 0.1
C111 0.047
Q102 2SC3377
R107 47 2W
R209 1K
Q202 2SA933
Q202 OVER CURRENT CONTROL
Q201 5V REG
Q201 2SC2060
D204 RK-14
R208 0.22 1/2W
L201 10μH
R211 100
R212 100
R219 1k
R213 1500
R214 220
C207 2200 10V
R210 47 1/2W
C209 0.47 50V
R205 2k
IC205 HA17431P
R206 1500
R207 33K
C210 470 10V
C214 0.01
IC204 AN1431T
C211 100 10V
C217 0.1
R215 1500
R108 470
D107 MA165
D106 MA165
D105 MA165
D104 MA165
R109 10K
D108 MA165
R110 22
D109 MA165
D205 AU02Z
C212 470 50V
R216 10 1/2W
C216 0.01
R218 10k
D206 AK04
C213 1000 6.3V
C215 0.01
R217 1.0 1/2W
PC101 ON3131
IC205
HA17431P VOLTAGE ERROR DETECT
IC204
AN1431T 5V REG
CN901 19P
1 N.C.
2 MTR 12V
3 MTR 12V
4 MTR GND
5 MTR GND
6 SW 12V
7 SW 9V
8 UNSW 6V
9 SW 5V
10 SW GND
11 SW GND
12 AU GND
13 UNSW GND
14 UNSW GND
15 +35V
16 DC 0V
17 DC 3.2V
18 -30V
19 POWER ON
CHASSIS GND
TO MA-82 BOARD CN010
(See Page 106)
P1
P2
B1
B2
S1
S2
S3
S4
S5
S6
S7
S8
12.1
12.4
13.4
12.2
8.8
5.9
5.4
6.1
4.8
2.5
-0.2
38
-27.6
3.8

SW POWER BLOCK (SLV-585HF (PX) ONLY) SCHEMATIC DIAGRAM

— Ref. No. SW POWER BLOCK (SLV-585HF (PX) ONLY): 10000 series —


1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
I
SWITCHING POWER BLOCK
(SLV-585HF:PX MODEL ONLY)
Q101
OSC&SWITCHING
R101 2.2 3W
T101
D202 ERA38-04
R201 150 1/2W
THY201 03P4M
D203 HZS22EB
C215 47 25V
R209 470
C209 100 50V
IC205
S13120CS
12V REG
D201 D4LA20
C218 1000p 1kV
C202 1500p 25V
IC201 PQ12RF21
C201 220 16V
IC205 S13120CS
IC201
PQ12RF21
12V REG
IC203 AN7809F
D101 S1WBA60
C106 0.047 630V
D105 D1N60
R102-1 100K 3W
R102-2 100K 3W
D104-2 D1N60
R103-2 220K 1/2W
D104-1 D1N60
R103-1 220K 1/2W
R108-1 22 1/2W
R108-2 22 1/2W
D103 ERA82-004
C107 100p 2kV
C108 1 200V
R109 560
Q101 2SC1317
C112 2200p 100V
C102 2200p AC250V
C103 2200p AC250V
C105 180 400V
HIC101 MA2831
C115 0.1 AC250V
L101 18mH 0.5A
R107 100 1/2W
R106 68 1/2W
C109 100 25V
R104-2 430K
R105 330 1/2W
R104-1 430K
D110 D1N60
C101 0.22 250V
F101 250V T2A
C116-2 2200P AC250V
C104-3 4700P AC250V
C104-1 4700P AC250V
C111 0.047 50V
BRN
BLU
INLET
CN101
INPUT
AC110-240V
CHASSIS GND
L201 40μH 0.7A
D206 S3S6M
PS202 ICP-N25 (1A)
IC204 S13050CA
C208 3300 10V
R213 10k
C210 100 50V
D207 ERA91-02
R203 39 1/2W
C219 2200p 100V
PS201 ICPF25 (1A)
D208 ERA83-004
L202 BEAD FERRITE
R204 2.7 1/2W
C212 0.01 50V
IC202
VOLTAGE ERROR DETECT
IC202 HA17431P or AN1431T
C214 0.33 63V
R214 360
C216 0.47 50V
R205 47 1/2W
R206 1600
R208 470
R207-1 1500
R207-2 1500
PC101 PC111S


4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
.OCK (SLV-585HF:PX MODEL ONLY)
T101
Q101
OSC&SWITCHING
R101 2.2 3W
R102-2 100K 3W
Ð104-2 ÐIN60
R103-2 220K 1/2W
Ð104-1 ÐIN60
R103-1 220K 1/2W
C107 100p 2kV
C108 1 200V
R108-1 22 1/2W
R108-2 22 1/2W
R109 560
C112 2200p 100V
Q101 2SC1317
(4.6) <5.1>
(-2.2) <-2.6>
(156) <297>
(-1.3) <-1.4>
(-0.4)
R107 100 1/2W
R106 68 1/2W
R104-2 430K
R104-1 430K
R105 330 1/2W
C109 100 25V
Ð103 ERA82 -004
Ð110 ÐIN60
C111 0.047 50V
Ð202 ERA38-04
R201 150 1/2W
THY201 03P4M
Ð203 HZS22EB
C215 47 25V
R209 470
Ð201 Ð4LA20
C218 1000p 1kV
C202 1500p 25V
C209 100 50V
IC205
S13120CS
12V REG
IC201 PQ12RF21
IC201
PQ12RF21
12V REG
14.2
12.2
5.2
14.3
12.5
12.1
C201 220 16V
R232 330
C203 330 16V
IC203 AN7809F
IC203
AN7809F
9V REG
C205 220 16V
6.1
Ð206 S3S6M
L201 40μH 0.7A
C208 3300 10V
PS202 ICP-N25 (1A)
IC204 S13050CA
IC204
S13050CA
5V REG
38.9
R212 120
C207 220 10V
C206 470 10V
R213 10k
Ð207 ERA91-02
R203 39 1/2W
C210 100 50V
-28.8
C219 2200p 100V
PS201 ICPF25 (1A)
Ð208 ERA83 -004
L202 BEAD FERRITE
C211 1000 10V
3.7
R204 2.7 1/2W
C212 0.01 50V
C213 0.01 50V
CHASSIS GNÐ
IC202
VOLTAGE ERROR ÐETECT
IC202 HA17431P or AN1431T
2.5
C214 0.33 63V
R214 360
C216 0.47 50V
R205 47 1/2W
R206 1600
R208 470
R207-1 1500
R207-2 1500
PC101 PC111S
CN711 19P
1 N.C.
2 MTR 12.3V
3 MTR 12.3V
4 MTR GNÐ
5 MTR GNÐ
6 SW 12V
7 SW 9V
8 5.9V
9 SW 5.1V
10 SW GNÐ
11 SW GNÐ
12 AU GNÐ
13 UNSW GNÐ
14 UNSW GNÐ
15 43V
16 ÐC 0V
17 ÐC 3.6V
18 -27.5V
19 POWER ON
TO MA-82 BOARÐ CN010
(See Page 106)

no mark :AC IN 110/240V
( ) :AC IN 110V
< > :AC IN 240V

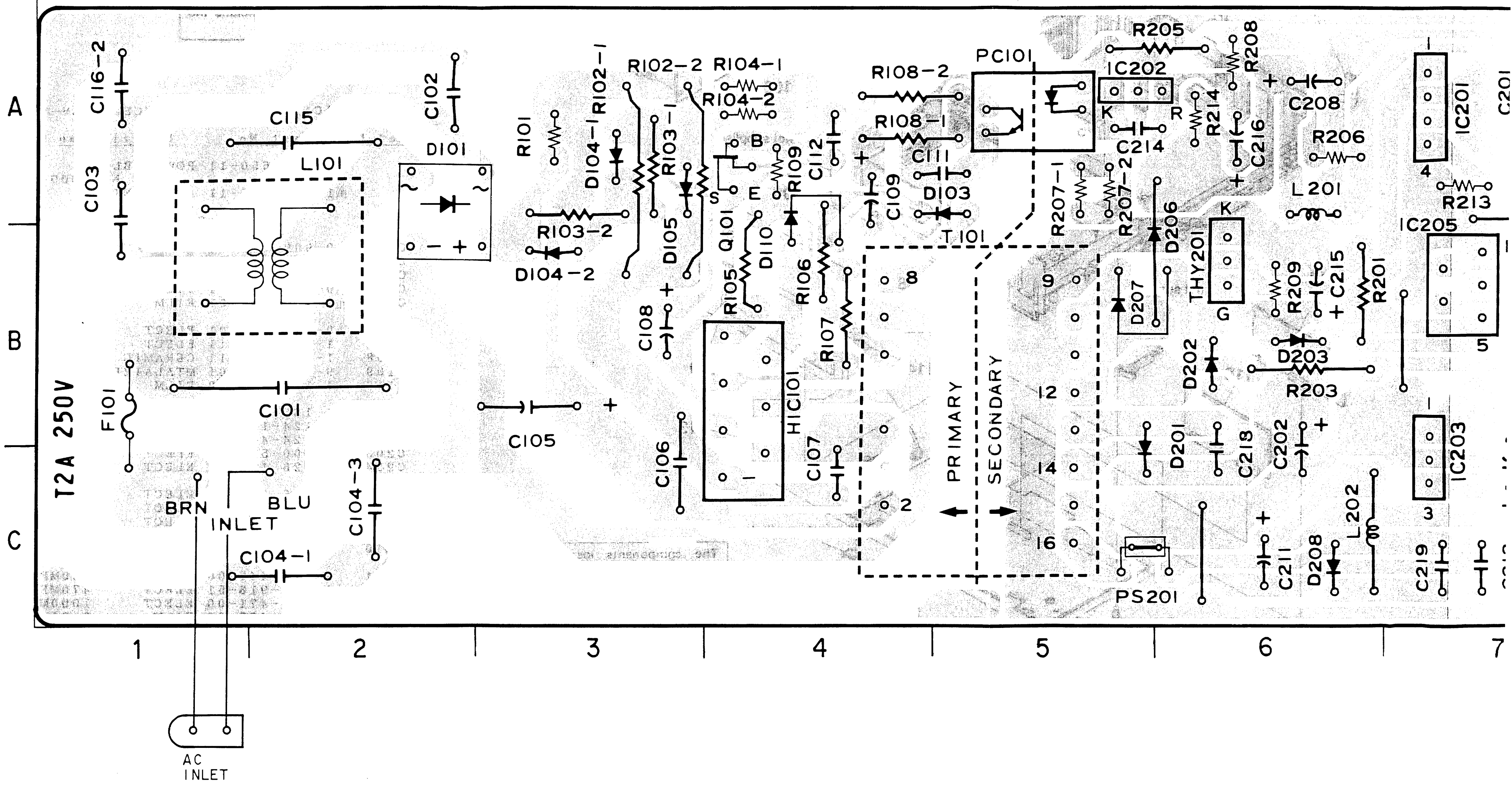
SW POWER BLOCK (SLV-585HF (PX) ONLY) PRINTED WIRING BOARD

— Ref. No. SW POWER BLOCK (SLV-585HF (PX) ONLY): 10000 series —

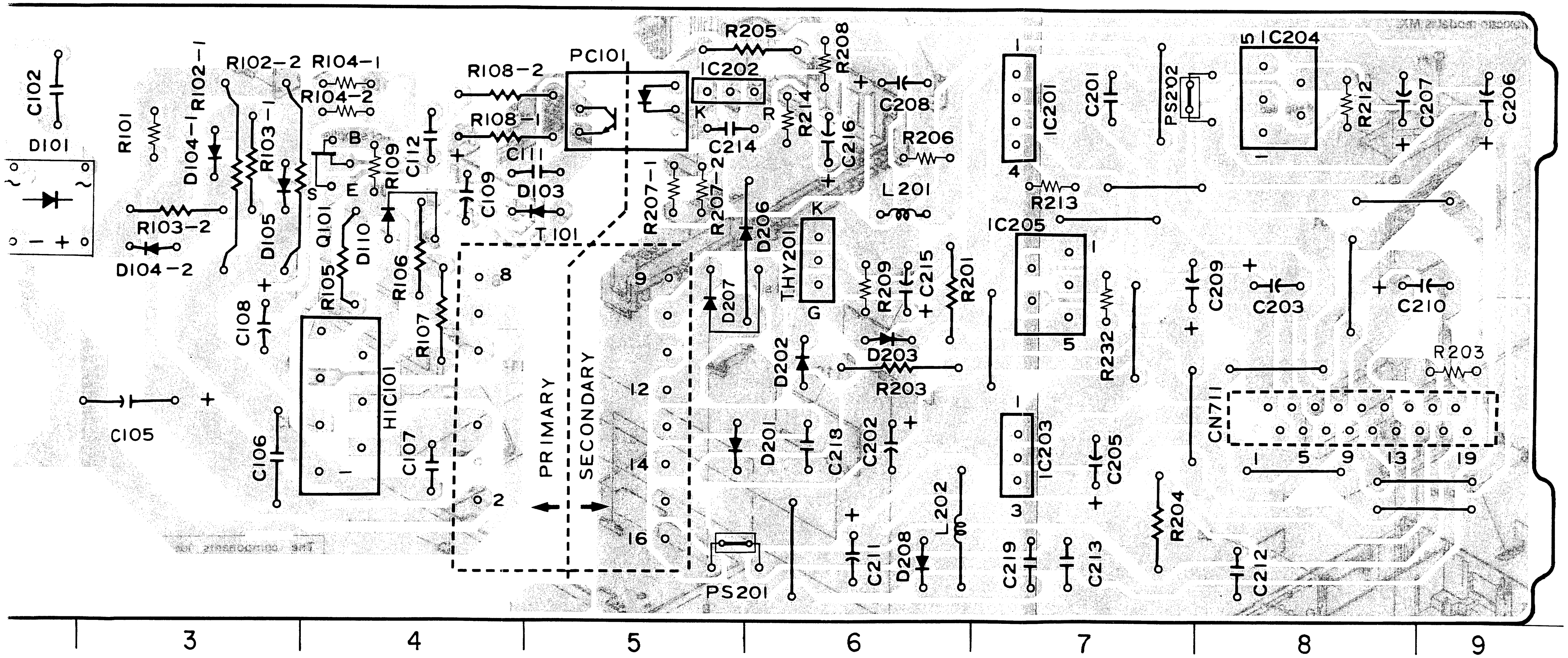
SW POWER
BLOCK
(PX model only)

CN711	B-8
D101	A-2
D103	A-5
D104-1	A-3
D104-2	B-3
D105	A-3
D110	A-4
D201	B-6
D202	B-6
D203	B-6
D206	A-6
D207	B-5
D208	C-6
IC201	A-7
IC202	A-5
IC203	C-7
IC204	A-8
IC205	B-7
Q101	A-4

SWITCHING POWER BLOCK (SLV-585HF:PX MODEL ONLY)


A
B
C
1
2
3
4
5
6
7
T2A 250V
C116-2
C103
C115
L101
C101
F101
BRN
BLU
INLET
C104-3
C104-1
C102
D101
C105
R101
D104-1
R102-1
R103-2
D104-2
R102-2
R104-1
R104-2
R103-1
D105
B
S
E
Q101
R109
C112
D110
C108
R105
HIC101
R106
R107
C106
C107
C109
R108-2
R108-1
C111
D103
PC101
T101
R207-1
R207-2
8
9
12
14
16
2
PRIMARY
SECONDARY
R205
IC202
K
R
R208
R214
C214
C216
C208
R206
L201
R213
D206
THY201
G
D207
D202
D203
R203
R209
C215
R201
IC201
IC205
C201
4
5
D201
C218
C202
IC203
3
L202
C211
D208
C219
PS201
AC
INLET

BLOCK (SLV-585HF:PX MODEL ONLY)


C102
D101
R101
R102-1
R102-2
R104-1
R104-2
D104-1
R103-1
R103-2
D104-2
D105
Q101
B
E
S
R109
C112
R105
D110
R106
R107
R108-2
R108-1
C111
D103
C109
T101
PC101
IC202
K
R
C214
R205
R214
R208
C216
C208
R206
L201
R207-1
R207-2
D206
D207
THY201
G
R209
C215
R201
D202
D203
R203
C108
C105
C106
HIC101
C107
8
9
12
14
16
2
PRIMARY
SECONDARY
D201
C218
C202
PS201
C211
D208
L202
IC201
4
R213
IC205
5
C201
PS202
IC204
R212
C207
C206
C209
C203
C210
R232
IC203
3
C205
C219
C213
R204
C212
CN711
1
5
9
13
19
R203
3
4
5
6
7
8
9

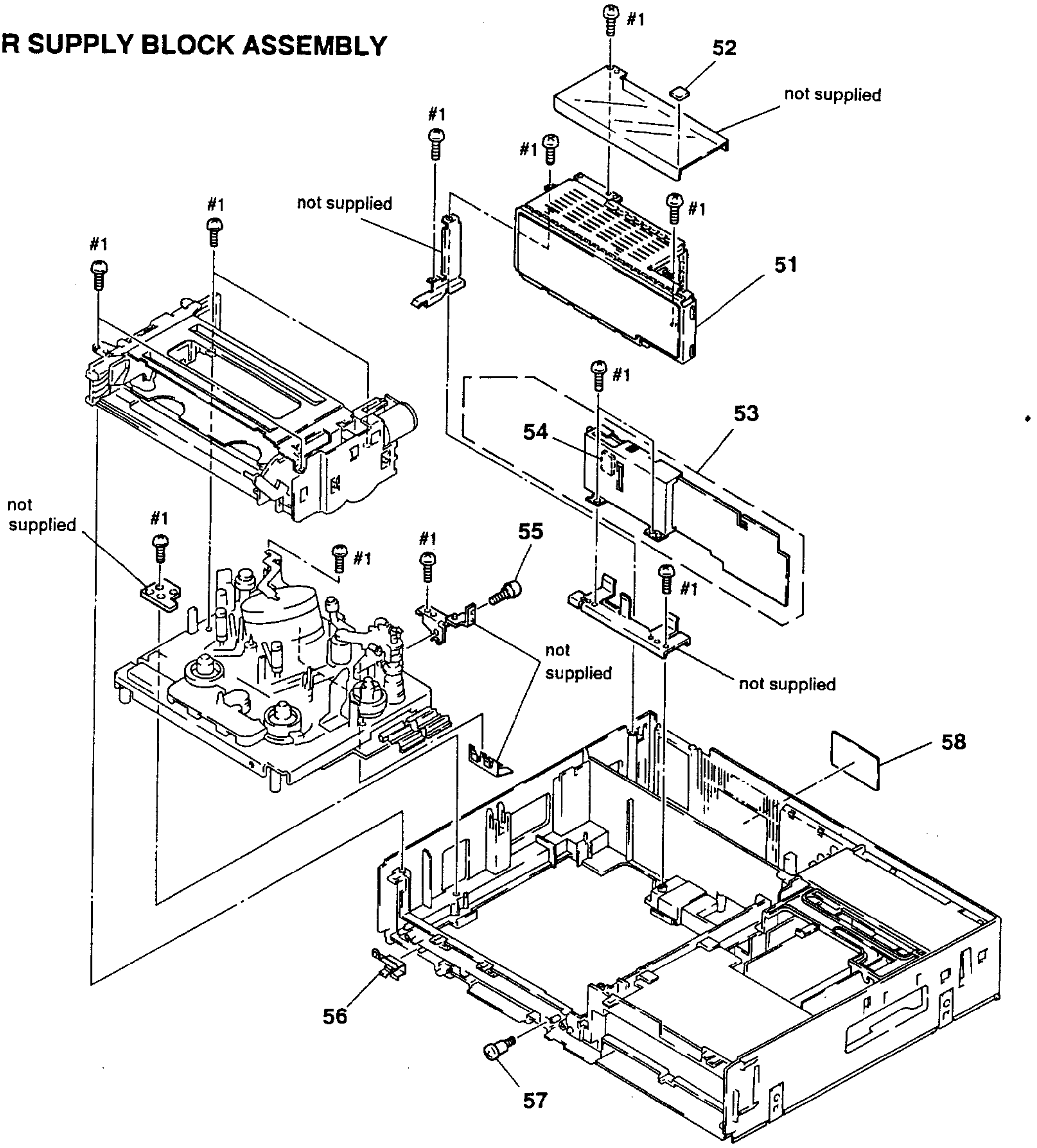
SECTION 5
EXPLODED VIEWS

NOTE:
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked " ∗ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.
- Canadian model is abbreviated as CND, and also Mexican model is MX.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

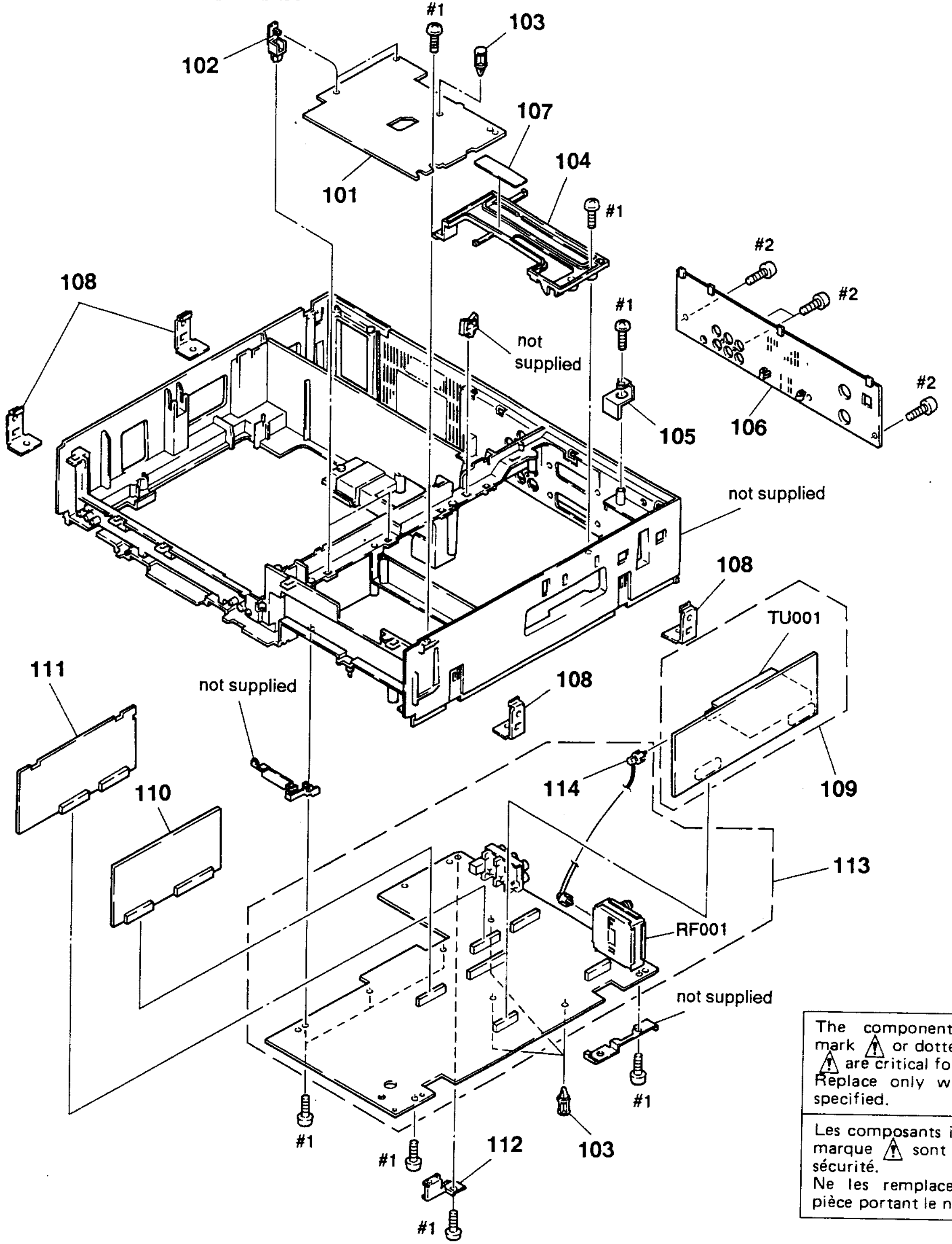
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

5-2. POWER SUPPLY BLOCK ASSEMBLY



Ref. No.	Part No.	Description	Remark
51	⚠. 1-413-648-11	POWER BLOCK (SWITCHING BLOCK) (585HF;PX)	
51	⚠. 1-413-650-11	POWER BLOCK (SWITCHING BLOCK) (EXCEPT 585HF;PX)	
52	9-911-839-XX	RETAINER (B), MICROPHONE	
53	∗A-6727-301-A	RP-112 BOARD, COMPLETE (686HF;US, CND)	
53	∗A-6727-302-A	RP-112 BOARD, COMPLETE (585HF;US, CND)	
53	∗A-6727-314-A	RP-128 BOARD, COMPLETE (71HF)	
53	∗A-6727-357-A	RP-128 BOARD, COMPLETE (585HF;PX/589HF)	
53	∗A-6727-361-A	RP-128 BOARD, COMPLETE (686HF;MX)	
54	∗1-639-699-12	DQ-6 BOARD (EXCEPT 71HF)	
54	∗1-639-699-31	DQ-6 BOARD (71HF)	
55	3-736-055-01	SCREW (3x8), TAPPING	
56	3-741-968-01	PLATE, GROUND, MF	
57	3-741-948-01	SCREW (3), SPECIAL (+) TAPPING	
58	∗3-942-769-01	LABEL, MODEL NUMBER (B) (585HF;US, CND)	
58	∗3-942-770-01	LABEL, MODEL NUMBER (C) (686HF;US, CND)	
58	∗3-944-213-01	LABEL, MODEL NUMBER (MX) (686HF;MX)	
58	∗3-944-482-01	LABEL, MODEL NUMBER (D) (589HF)	
58	∗3-944-212-01	LABEL, MODEL NUMBER (PX) (585HF;PX)	

5-3. MAIN BOARD ASSEMBLY



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
101	∗A-6754-240-A	CA-46 BOARD, COMPLETE (686HF;US, CND)	
101	∗A-6754-248-A	CA-46 BOARD, COMPLETE (585HF;US, CND)	
101	∗A-6754-264-A	CA-47 BOARD, COMPLETE (71HF)	
101	∗A-6754-360-A	CA-47 BOARD, COMPLETE (585HF;PX/589HF)	
101	∗A-6754-361-A	CA-47 BOARD, COMPLETE (686HF;MX)	
102	3-736-704-01	HINGE, PC BOARD	
103	3-682-057-11	SPACER (SMALL)	
104	∗3-941-524-01	HOLDER, FRAME (EXCEPT 71HF)	
104	∗3-944-753-01	HOLDER, FRAME (71HF)	
105	∗3-741-963-01	BRACKET, RF	
106	3-941-514-11	PLATE, ORNAMENTAL, JACK (EXCEPT 71HF)	
106	3-944-739-01	PLATE, ORNAMENTAL, JACK (71HF)	
107	3-942-876-01	LABEL, CAUTION (585HF;US, CND/686HF;US, CND)	
108	∗3-741-992-01	STOPPER, UPPER CASE (EXCEPT 71HF)	
108	∗3-741-992-11	STOPPER, UPPER CASE (71HF)	
109	∗A-6754-238-A	TU-130 BOARD, COMPLETE	
110	∗A-6754-242-A	HF-23 BOARD, COMPLETE	
111	∗A-6754-241-A	YC-112 BOARD, COMPLETE	
112	∗3-741-962-01	PLATE, GROUND, JMP (EXCEPT 71HF)	
112	∗3-741-962-11	PLATE, GROUND, JMP (71HF)	
113	∗A-6756-083-A	MA-82 BOARD, COMPLETE (585HF;US, CND/686HF;US, CND)	
113	∗A-6756-104-A	MA-82 BOARD, COMPLETE (71HF)	
113	∗A-6756-249-A	MA-82 BOARD, COMPLETE (585HF;PX/686HF;MX/589HF)	
114	1-558-924-41	CABLE, PIN	
RF001	⚠. 1-466-150-11	MODULATOR, RF (RFU-1025) (EXCEPT 71HF)	
RF001	⚠. 1-466-358-11	MODULATOR, RF (RFU-1020) (71HF)	
TU001	⚠. 1-465-239-11	TUNER, ET (BTP-2A401)	

POWER BLOCK

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF : μF
- COILS
  uH : μH

ELECTRICAL PARTS LIST (EXCEPT: SLV-585HF (PX))

Ref. No.	Part No.	Description	Remark
	1-413-650-11	POWER BLOCK (Ref. No. 9000 Series)	
	⚠1-526-985-11	AC INLET	
		<CAPACITOR>	
C101	⚠9-900-521-01	FILM 0. 1MF	125V
C102	⚠9-900-521-01	FILM 0. 1MF	125V
C103	⚠9-900-522-01	FILM 2200PF	125V
C104	⚠9-900-522-01	FILM 2200PF	125V
C105	⚠9-900-522-01	FILM 2200PF	125V
C106	⚠9-900-523-01	ELECT 220MF	200V
C107	1-124-927-11	ELECT 4. 7MF	50V
C108	1-164-350-11	CERAMIC 470PF	1KV
C109	9-900-525-01	MTALAIZED 0. 047MF	400V
C110	1-130-495-00	FILM 0. 1MF	50V
C111	1-130-491-00	FILM 0. 047MF	50V
C201	1-124-122-11	ELECT 100MF	50V
C202	1-124-443-00	ELECT 100MF	10V
C203	9-900-540-01	ELECT 2200MF	16V
C204	1-126-101-11	ELECT 100MF	16V
C205	1-126-101-11	ELECT 100MF	16V
C206	1-126-101-11	ELECT 100MF	16V
C207	9-900-541-01	ELECT 2200MF	10V
C209	1-124-902-00	ELECT 0. 47MF	50V
C210	9-900-542-01	ELECT 470MF	10V
C211	1-124-443-00	ELECT 100MF	10V
C212	1-124-913-51	ELECT 470MF	50V
C213	1-124-471-00	ELECT 1000MF	6. 3V
C214	1-130-483-00	FILM 0. 01MF	50V
C215	1-130-483-00	FILM 0. 01MF	50V
C216	1-130-483-00	FILM 0. 01MF	50V
C217	1-130-495-00	FILM 0. 1MF	50V
		<CONNECTOR>	
CN901	9-900-546-01	CONNECTOR 19P	
		<DIODE>	
D101	⚠9-900-511-01	DIODE S1WBA60	
D102	9-996-310-01	DIODE AG01A	
D103	8-719-200-82	DIODE 11ES2	
D104	8-719-911-19	DIODE 1SS119	
D105	8-719-911-19	DIODE 1SS119	
D106	8-719-911-19	DIODE 1SS119	
D107	8-719-911-19	DIODE 1SS119	
D108	8-719-911-19	DIODE 1SS119	
D109	⚠8-719-911-19	DIODE 1SS119	
D201	9-900-534-01	DIODE ERA18-02	
D202	8-719-114-87	DIODE RD18JSB	
D203	9-900-536-01	DIODE RL4Z	
D204	8-719-981-00	DIODE ERB81-004	
D205	9-900-534-01	DIODE ERA18-02	
D206	8-719-975-85	DIODE ERA83-004	
		<FUSE>	
F101	⚠1-532-743-11	FUSE 2A 125V	
		<BEAD. CORE>	
FB101	9-900-981-01	BEAD. CORE	
		<IC>	
IC201	⚠1-808-796-11	IC SI-3120CS	
IC202	⚠8-749-920-43	IC SI-3120CA	
IC203	⚠9-900-530-01	IC AN7809F	
IC204	9-900-532-01	IC AN1431T	
IC205	9-900-532-01	IC AN1431T	
		<COIL>	
L101	⚠9-900-520-01	FILTER. LINE AC	
L201	9-900-539-01	CHOCK COIL 10μH	
		<TRANSISTOR>	
Q101	⚠9-900-515-01	TRANSISTOR 2SC3890	
Q102	⚠8-729-140-96	TRANSISTOR 2SD774-34	
Q201	⚠8-729-140-96	TRANSISTOR 2SD774-34	
Q202	8-729-119-76	TRANSISTOR 2SA933	
		<PHOTO COUPPLER>	
PC101	⚠9-900-518-01	PHOTO COUPPLER PS2501	
		<RESISTOR>	
R101	1-102-729-00	SLOID 6. 8M	1/2W
R102	1-249-441-11	CARBON 100K	1/4W
R103	1-249-441-11	CARBON 100K	1/4W
R104	1-249-429-11	CARBON 10K	1/4W
R105	1-215-909-00	METAL 47	3W
R106	9-900-527-01	METAL 33K	3W
R107	9-900-528-01	METAL 47	2W
R108	1-249-413-11	CARBON 470	1/4W
R109	1-249-429-11	CARBOM 10K	1/4W
R110	⚠1-249-397-11	CARBON 22	1/4W
R201	⚠1-247-727-11	CARBON 10	1/2W
R202	1-249-417-11	CARBON 1K	1/4W
R204	1-215-411-00	METAL 390	1/4W
R205	1-215-428-00	METAL 2K	1/4W
R206	1-215-425-00	METAL 1. 5K	1/4W
R207	1-215-457-00	METAL 33K	1/4W

Ref. No.	Part No.	Description	Remark
R208	9-900-543-01	CARBON 0.22	1/2W
R209	1-249-417-11	CARBON 1K	1/4W
R210	9-900-544-01	CARBON 47K	1/2W
R211	1-247-405-11	CARBON 100	1/4W
R212	1-247-405-11	CARBON 100	1/4W
R213	1-215-425-00	METAL 1.5K	1/4W
R214	1-249-409-11	CARBON 220	1/4W
R215	1-215-425-00	METAL 1.5K	1/4W
R216	1-247-727-11	CARBON 10	1/2W
R217	⚠9-900-545-01	FUSIBLE 1	1/2W
R218	1-249-429-11	CARBON 10K	1/4W
R219	1-249-417-11	CARBON 1K	1/4W
		<THYRISTOR>	
SCR201	⚠9-900-538-01	THYRISTOR 03P2M	
		<TRANCE>	
T101	⚠9-900-529-01	TRANCE, CONVERTOR	

* * *

ELECTRICAL PARTS LIST (SLV-585HF (PX) ONLY)

Ref. No.	Part No.	Description	Remark
	1-413-648-12	POWER BLOCK (Ref.No.10000 Series)	
		<CAPACITOR>	
C101	⚠9-900-768-01	FILM 0.22MF	250V
C102	⚠9-900-769-01	CERAMIC 2200PF	250V
C103	⚠9-900-769-01	CERAMIC 2200PF	250V
C104-1	⚠9-900-770-01	CERAMIC 4700PF	250V
C104-3	⚠9-900-770-01	CERAMIC 4700PF	250V
C105	⚠9-900-772-01	ELECT 180MF	400V
C106	⚠9-900-771-01	FILM 0.047MF	630V
C107	⚠9-900-773-01	CERAMIC 100PF	2KV
C108	⚠9-900-774-01	ELECT 1MF	200V
C109	⚠9-900-775-01	ELECT 100MF	25V
C111	9-900-776-01	FILM 0.047MF	50V
C112	⚠9-900-783-01	FILM 2200PF	100V
C115	⚠9-900-778-01	FILM 0.1	AC250V
C116-2	⚠9-900-796-01	CERAMIC 2200PF	AC250V
C201	1-124-570-11	ELECT 220MF	16V
C202	9-900-779-01	ELECT 1500MF	25V
C203	1-124-119-00	ELECT 330MF	16V
C205	1-124-570-11	ELECT 220MF	16V
C206	1-124-472-11	ELECT 470MF	10V
C207	1-126-176-11	ELECT 220MF	10V
C208	1-124-520-11	ELECT 3300MF	10V
C209	1-124-122-11	ELECT 100MF	50V
C210	1-124-122-11	ELECT 100MF	50V
C211	1-124-559-51	ELECT 1000MF	10V
C212	9-900-780-01	FILM 0.01MF	50V
C213	9-900-780-01	FILM 0.01MF	50V
C214	9-900-781-01	FILM 0.33MF	63V
C215	1-124-126-00	ELECT 47MF	25V
C216	1-123-379-00	ELECT 0.47MF	50V
C218	9-900-782-01	CERAMIC 1000PF	1KV
C219	9-900-783-01	FILM 2200PF	100V
		<CONNECTOR>	
CN101	⚠9-900-765-01	INLET, AC	
CN711	9-900-766-01	CONNECTOR	
		<DIODE>	
D101	⚠8-719-510-06	DIODE	D1WBA60
D103	⚠8-719-913-44	DIODE	ERA82-004
D104	⚠9-900-740-01	DIODE	D1N60
D105	⚠9-900-740-01	DIODE	D1N60
D110	⚠9-900-740-01	DIODE	D1N60
D201	9-944-171-01	DIODE	D4LA20
D202	9-900-743-01	DIODE	ERA38-04
D203	8-719-110-57	DIODE	RD22ESB2
D206	⚠8-719-500-65	DIODE	S3S6M
D207	8-719-951-30	DIODE	ERA91-02
D208	9-900-747-01	DIODE	ERA83-004
		<FUSE>	
F101	⚠9-900-748-01	FUSE 2A	
		<HIC>	
HIC101	⚠9-900-758-01	HIC MA2831	
		<IC>	
IC201	8-759-518-68	IC PQ12RF21	
IC202	8-759-420-19	IC AN431T	
IC203	8-759-231-56	IC TA7809S	
IC204	8-749-920-43	IC SI3050CA	
IC205	1-808-796-11	IC SI3120CS	
		<COIL>	
L101	⚠9-900-752-01	FILTER LINE	18MH
L201	9-900-754-01	CHOCK COIL	40μH
L202	9-900-575-01	BEAD FERRITE	
		<COUPLER>	
PC101	⚠9-900-762-01	COUPLER, PHOTO	PC111LS
		<PROTECTOR>	
PS201	⚠1-532-637-00	PROTECTOR, IC ICPN25	1A
PS202	⚠1-532-637-00	PROTECTOR, IC ICPN25	1A
		<TRANSISTOR>	
Q101	⚠8-729-100-13	TRANSISTOR 2SC2001	
		<RESISTOR>	
R101	⚠9-900-784-01	CEMENT 2.2	3W
R102	⚠9-900-785-01	METAL 100K	3W
R103	⚠9-900-786-01	CARBON 220K	1/2W
R104	1-247-894-11	CARBON 430K	1/4W
R105	⚠9-900-787-01	CARBON 330	1/2W
R106	⚠9-900-788-01	CARBON 68	1/2W
R107	⚠9-900-789-01	CARBON 100	1/2W
R108	⚠9-900-790-01	CARBON 22	1/2W
R109	1-249-414-11	CARBON 560	1/4W
R201	⚠9-901-622-01	FUSE 150	1/2W
R203	⚠9-901-623-01	FUSE 39	1/2W
R204	⚠9-900-793-01	CARBON 2.7	1/2W
R205	⚠9-900-794-01	CARBON 47	1/2W
R206	1-215-426-00	METAL 1.6K	1/4W
R207-1	1-215-425-00	METAL 1.5K	1/4W

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

POWER BLOCK

Ref. No.	Part No.	Description	Remark
R207-2	1-215-455-00	METAL 27K	1/4W
R208	1-215-413-00	METAL 470	1/4W
R209	1-249-413-11	CARBON 470	1/4W
R212	1-215-399-00	METAL 120	1/4W
R213	1-249-429-11	CARBON 10K	1/4W
R214	1-247-820-11	CARBON 360	1/4W
R232	1-215-409-00	METAL 330	1/4W
		<TRANCE>	
T101	⚠9-900-751-01	TRANCE. CONVERTOR	
		<THYRISTOR>	
THY201	9-900-764-01	THYRISTOR 03P4M	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

English
9110939-1
Printed in Japan
© 1991. 9

Sony Corporation
Home Video Group

Published by Customer Relations and Service Group

9-973-127-81

SLV-71HF/585HF/589HF/686HF

RMT-V102/V102A/V112

SONY®

SERVICE MANUAL

US Model
SLV-585HF/686HF

Canadian Model
SLV-585HF/589HF/686HF

Taiwan Model
SLV-71HF

Mexican Model
SLV-686HF

PX Model
SLV-585HF

SUPPLEMENT-2

Use the previously published service manual (original) and this service manual (SUPPLEMENT-1) together.

SLV-71HF is not listed in SUPPLEMENT-2 as there were no change.

Each change is performed from the serial numbers as follows.

SLV-585HF;	US MODEL:	serial No. 1,053,211 later.
SLV-686HF;	US MODEL:	serial No. 1,020,001 later.
SLV-585HF;	CND MODEL:	serial No. A912,001 later.
SLV-589HF;	CND MODEL:	serial No. 801,001 later.
SLV-686HF;	CND MODEL:	serial No. A904,001 later.
SLV-686HF;	MX MODEL:	serial No. 804,301 later.
SLV-585HF;	PX MODEL:	serial No. 807,501 later.

TABLE OF CONTENTS

Section Title Page

3. DIAGRAMS

3-1. Circuit Boards Location ··· 3

4. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1. Frame Schematic Diagram ··· 4
4-2. Printed Wiring Boards and Schematic Diagrams ··· 6
- RP-128, DQ-6 Boards ··· 6
- YC-112 Board ··· 11
- MA-82 Board ··· 17
- MD-49 Board ··· 23
- CA-47 Board ··· 28
- HF-23 Board ··· 33
- TU-130 Board ··· 37
- MF-122 Board ··· 41
- MF-142 Board ··· 45

5. EXPLODED VIEWS

5-1. Front Panel and Case Assemblies ··· 49
5-2. Power Supply Block Assembly ··· 50
5-3. Main Boards Assembly ··· 51
5-4. FL Cassette Compartment Assembly ··· 52
5-5. MD Chassis Assembly (1) ··· 53
5-6. MD Chassis Assembly (2) ··· 54
5-7. MD Chassis Assembly (3) ··· 55

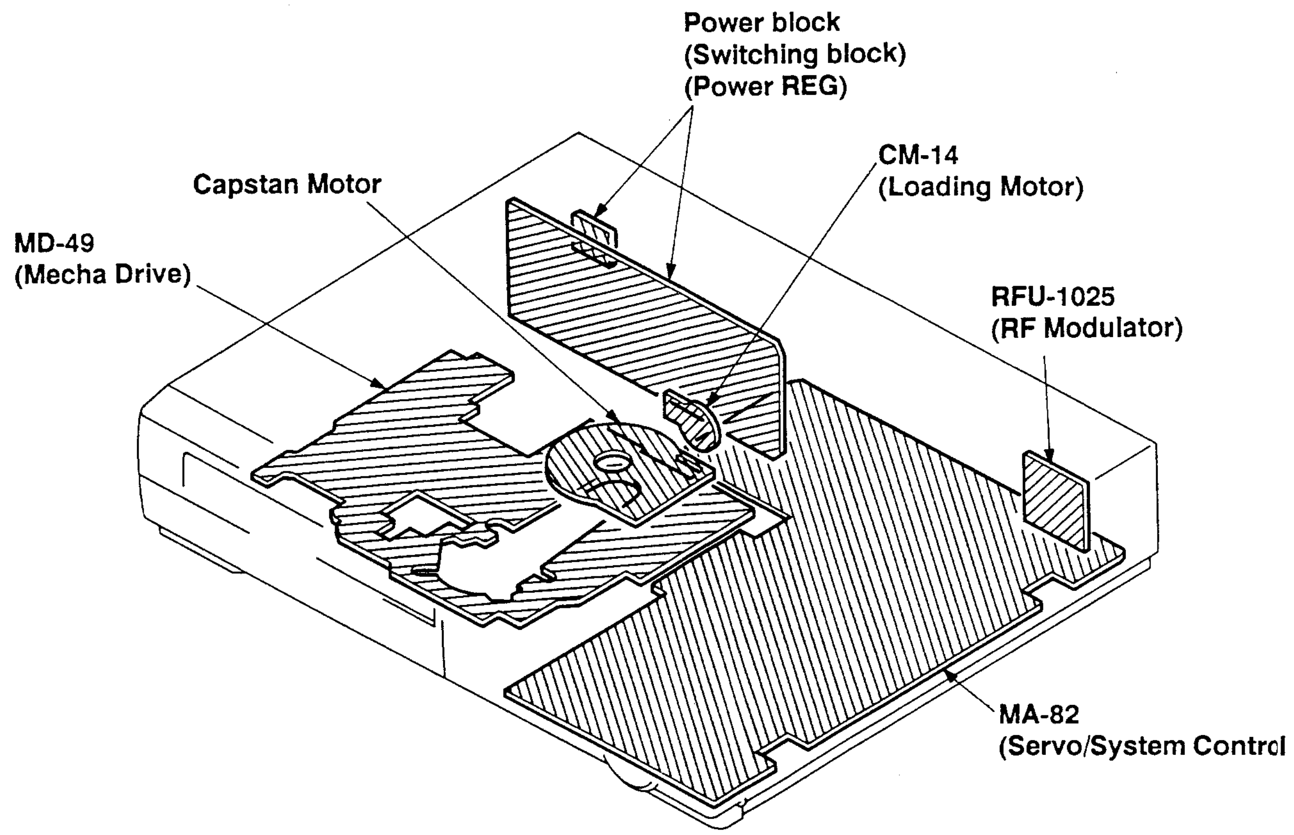
6. ELECTRICAL PARTS LIST ··· 56

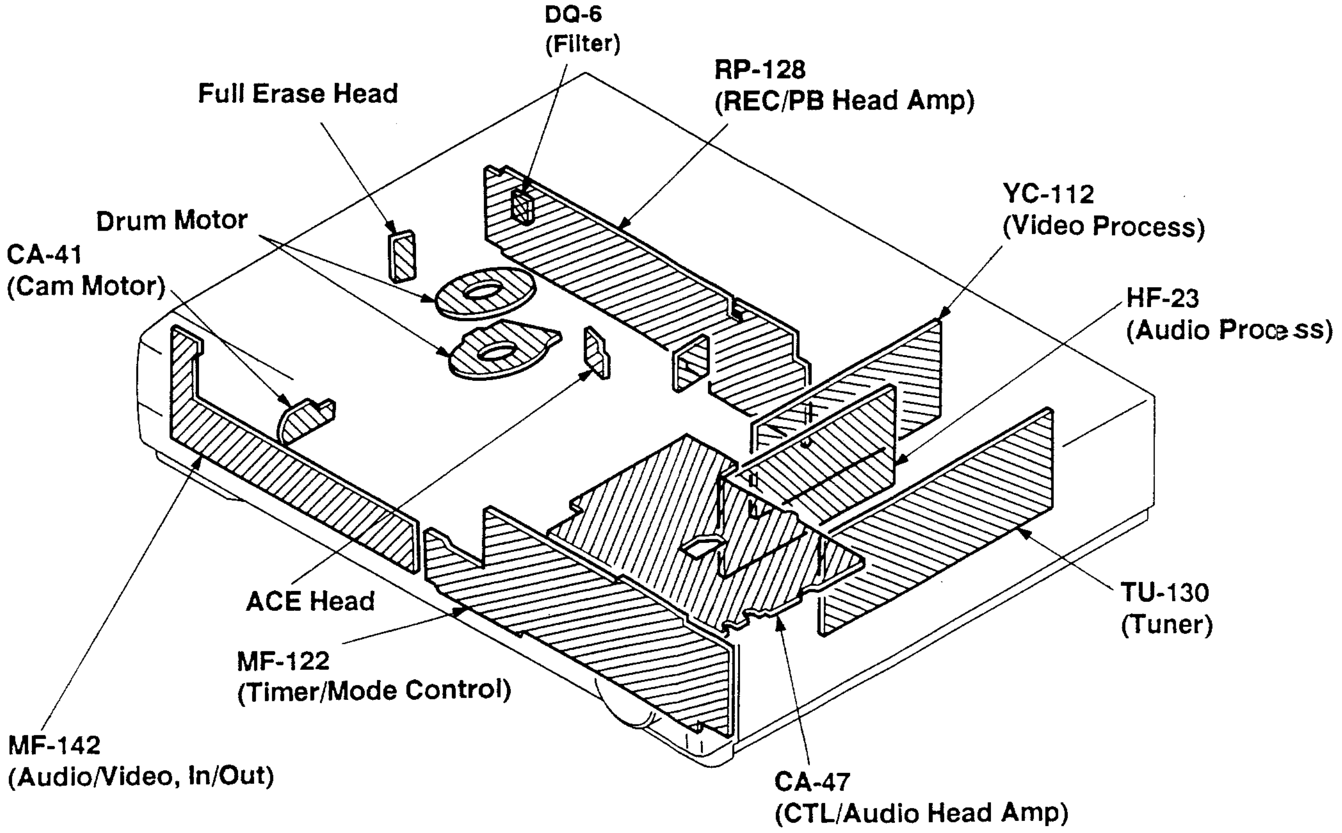
HARDWARE LIST ··· 72

Suppl2

SECTION 3
DIAGRAMS

3-1. CIRCUIT BOARDS LOCATION

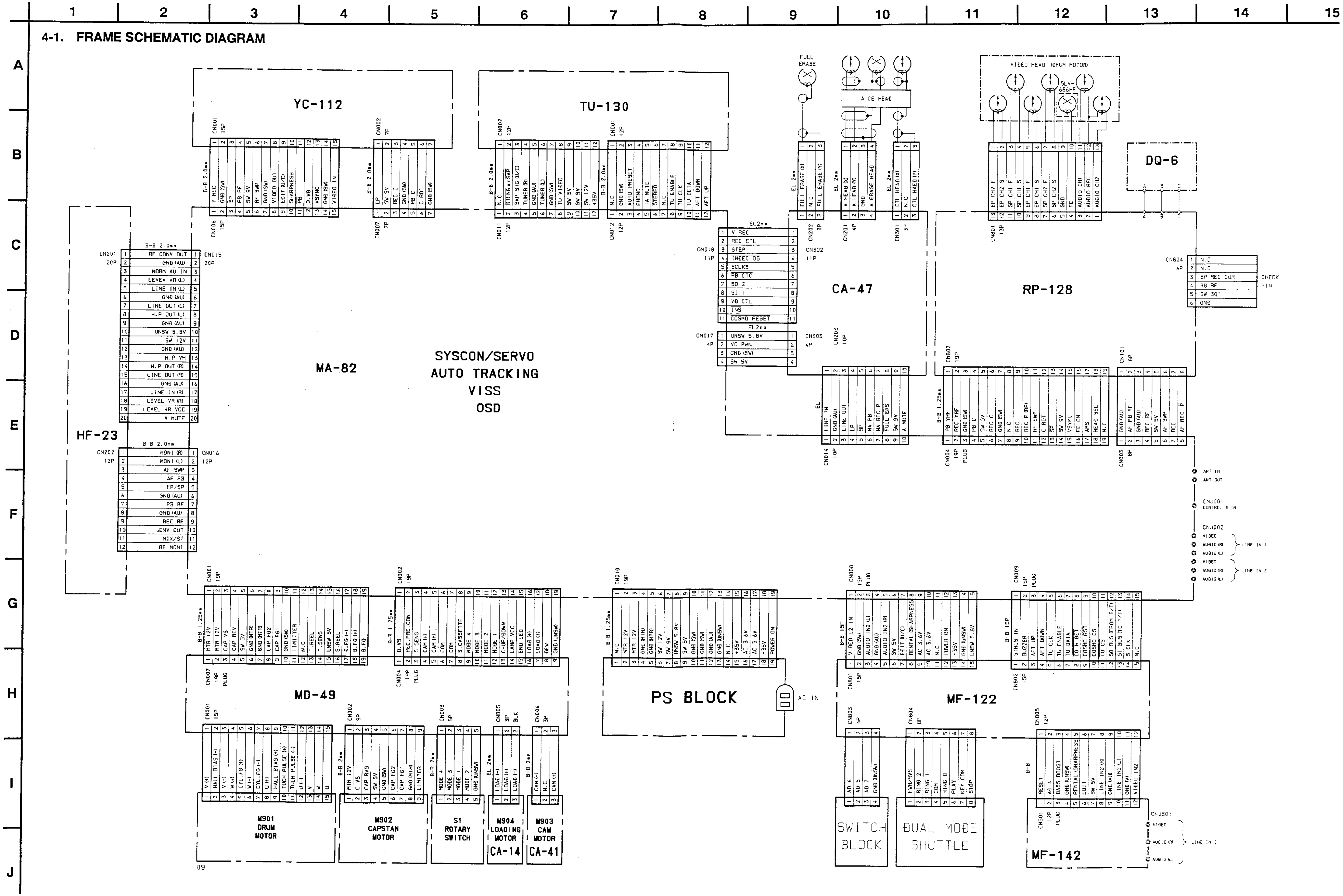

Power block
(Switching block)
(Power REG)
CM-14
(Loading Motor)
Capstan Motor
MD-49
(Mecha Drive)
RFU-1025
(RF Modulator)
MA-82
(Servo/System Control


DQ-6
(Filter)
RP-128
(REC/PB Head Amp)
Full Erase Head
YC-112
(Video Process)
Drum Motor
CA-41
(Cam Motor)
HF-23
(Audio Process)
ACE Head
TU-130
(Tuner)
MF-122
(Timer/Mode Control)
MF-142
(Audio/Video, In/Out)
CA-47
(CTL/Audio Head Amp)

SECTION 4

PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1. FRAME SCHEMATIC DIAGRAM


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
I
J
YC-112
TU-130
FULL ERASE
A CE HEAD
VIDEO HEAD (DRUM MOTOR)
SLV-686HF
DQ-6
HF-23
MA-82
SYSCON/SERVO
AUTO TRACKING
VISS
OSD
CA-47
RP-128
CHECK PIN
ANT IN
ANT OUT
CNJ001 CONTROL S IN
CNJ002
VIDEO
AUDIO (R)
AUDIO (L)
LINE IN 1
LINE IN 2
MD-49
PS BLOCK
AC IN
MF-122
M901 DRUM MOTOR
M902 CAPSTAN MOTOR
S1 ROTARY SWITCH
M904 LOADING MOTOR
CA-14
M903 CAM MOTOR
CA-41
SWITCH BLOCK
DUAL MODE SHUTTLE
MF-142
CNJ501

4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this , the necessary note is printed in each block.)

- **For printed wiring boards.**
- ○ : Through hole.
- ▨ : Pattern from the side which enables seeing.
  (The other layers' patterns are not indicated.)

Caution:

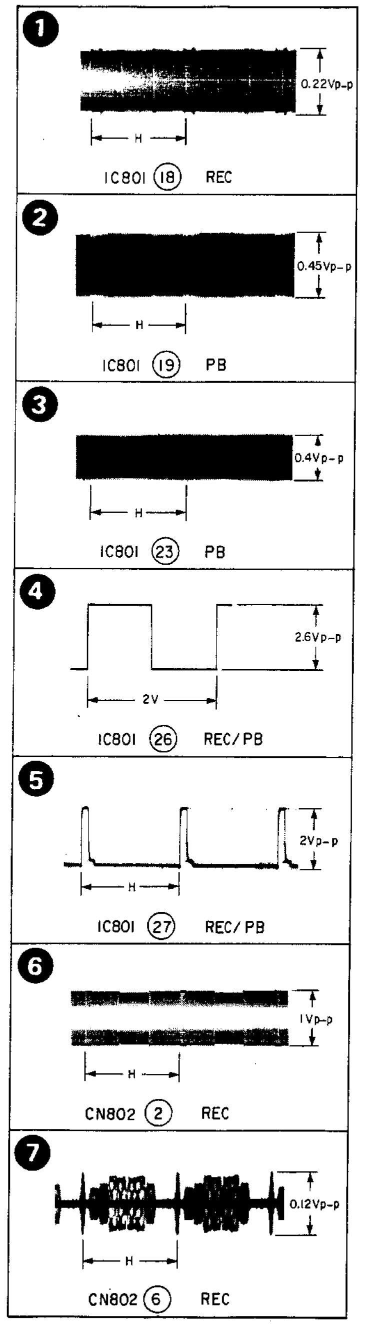
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component side)	Parts on the parts face side seen from the parts face are indicated.

- **For schematic diagrams.**
- Caution when replacing chip parts.
  New parts must be attached after removal of chip.
  Be careful not to heat the minuts side of tantalum capacitor, because it is damaged by the heat.
- All resistors are in ohms, 1/4W unless otherwise noted.
  Chip resistor are 1/10W unless otherwise noted.
  kΩ : 1000Ω , MΩ : 1000kΩ .
- All capacitors are in μF unless otherwise noted. pF: μμF.
  50V or less are not indicated except for electrolytics and tantalums.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.
- ▭ : panel designation.
- △ : internal component.
- ▭ : adjustment for repeair.
- ━━ : B+ Line.
- ━ ━ ━ : B– Line.
- ⇒ : IN/OUT direction of (+, –) B LINE.
- Circled numbers refer to waveforms.
- Voltages are dc between ground and measurement points.
- Readings are taken with a color-bar signal input.
- Readings are taken with a digital multimeter (DC10MΩ).
- Voltages are taken with a VOM (Input impedance 10MΩ).
- Voltage variations may be noted due to normal production tolerances.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safty. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

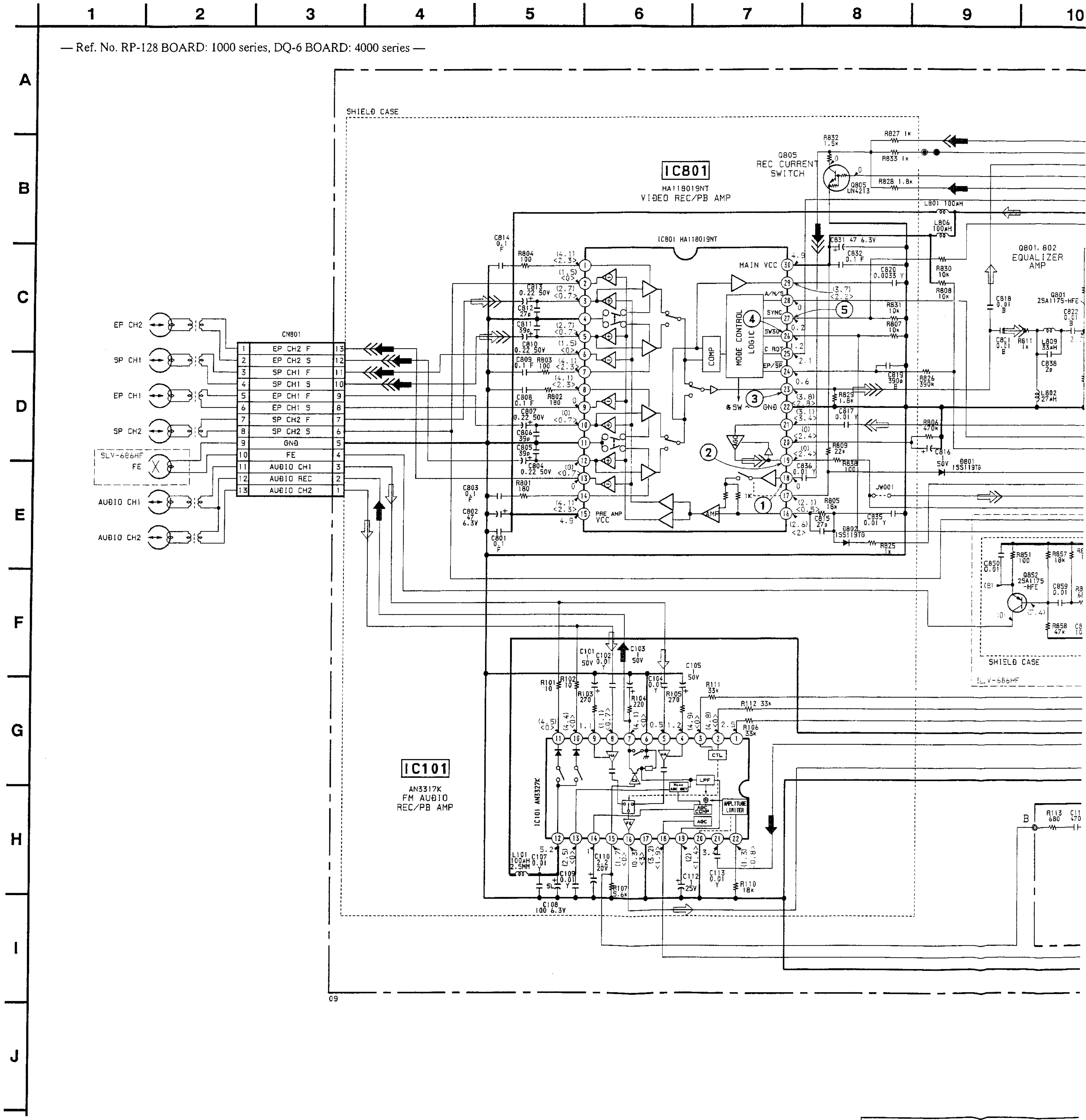
When indicating parts by reference number, please include the board name.

RP-128 BOARD

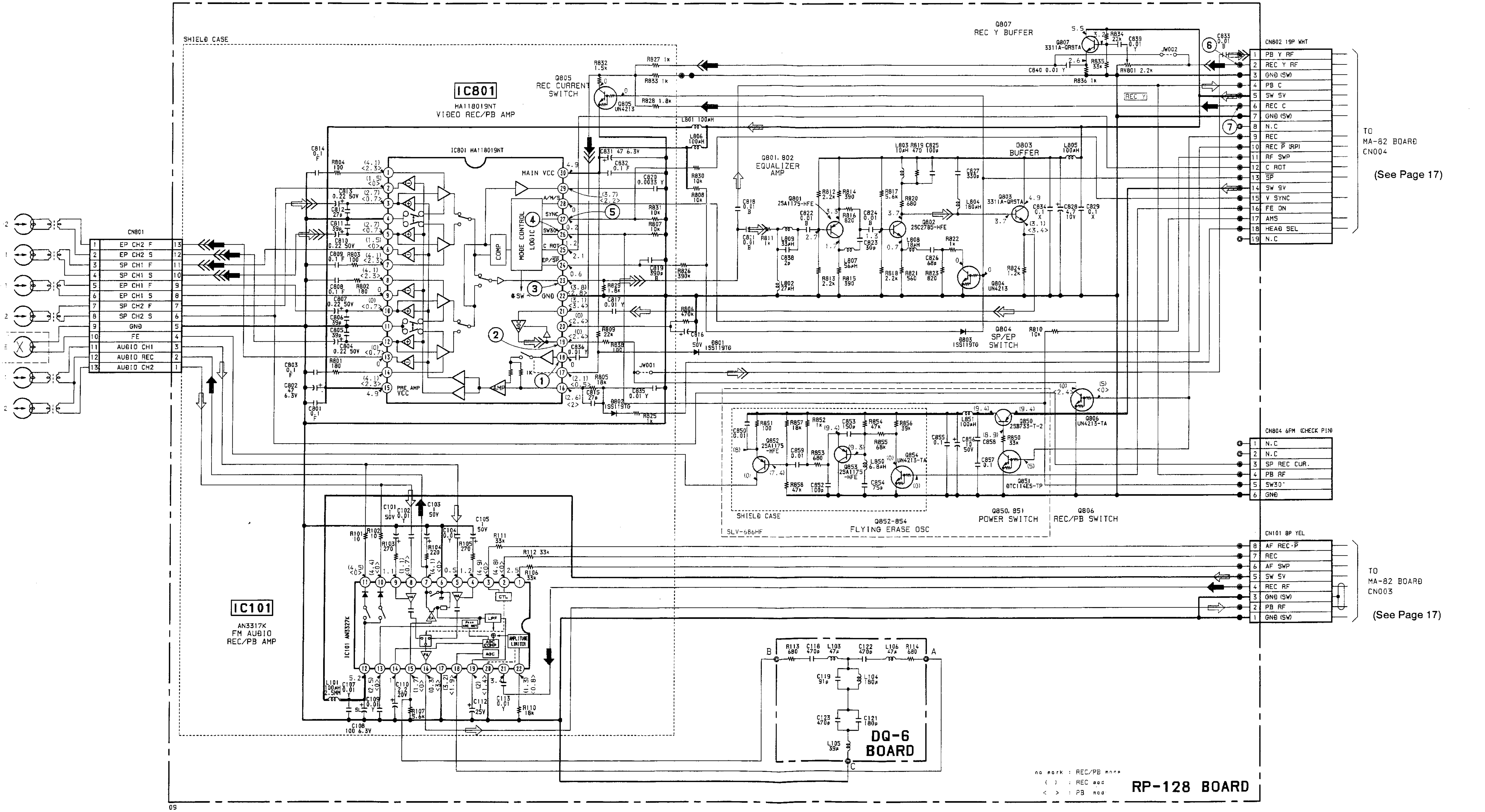


RP-128 (REC/PB HEAD AMP), DQ-6 (FILTER) SCHEMATIC DIAGRAMS

— Ref. No. RP-128 BOARD: 1000 series, DQ-6 BOARD: 4000 series —


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
H
I
J
SHIELD CASE
IC801
HA118019NT
VIDEO REC/PB AMP
Q805
REC CURRENT
SWITCH
Q805
UN4213
IC801 HA118019NT
MAIN VCC
MODE CONTROL LOGIC
COMP
PRE AMP VCC
AMP
Q801, 802
EQUALIZER
AMP
Q801
2SA1175-HFE
Q852
2SA1175-HFE
D801
1SS119TG
D802
1SS119TG
CN801
EP CH2 F
EP CH2 S
SP CH1 F
SP CH1 S
EP CH1 F
EP CH1 S
SP CH2 F
SP CH2 S
GND
FE
AUDIO CH1
AUDIO REC
AUDIO CH2
EP CH2
SP CH1
EP CH1
SP CH2
SLV-686HF
FE
AUDIO CH1
AUDIO CH2
IC101
AN3317K
FM AUDIO
REC/PB AMP
LPF
AMPLITUDE LIMITER
AGC
CTL
09

128 BOARD: 1000 series, DQ-6 BOARD: 4000 series —


SHIELD CASE
IC801
HA118019NT
VIDEO REC/PB AMP
IC801 HA118019NT
MAIN VCC
MODE CONTROL LOGIC
COMP
PRE AMP VCC
Q805
REC CURRENT SWITCH
Q807
REC Y BUFFER
Q801, 802
EQUALIZER AMP
Q803
BUFFER
Q804
SP/EP SWITCH
Q806
REC/PB SWITCH
Q850, 851
POWER SWITCH
Q852-854
FLYING ERASE OSC
SLV-686HF
CN801
1 EP CH2 F
2 EP CH2 S
3 SP CH1 F
4 SP CH1 S
5 EP CH1 F
6 EP CH1 S
7 SP CH2 F
8 SP CH2 S
9 GND
10 FE
11 AUDIO CH1
12 AUDIO REC
13 AUDIO CH2
CN802 19P WHT
1 PB Y RF
2 REC Y RF
3 GND (SW)
4 PB C
5 SW 5V
6 REC C
7 GND (SW)
8 N.C
9 REC
10 REC P̅ (RP)
11 RF SWP
12 C ROT
13 S̅P̅
14 SW 9V
15 V SYNC
16 FE ON
17 AMS
18 HEAD SEL
19 N.C
TO
MA-82 BOARD
CN004
(See Page 17)
CN804 6PM (CHECK PIN)
1 N.C
2 N.C
3 SP REC CUR.
4 PB RF
5 SW30'
6 GND
CN101 8P YEL
8 AF REC·P̅
7 REC
6 AF SWP
5 SW 5V
4 REC RF
3 GND (SW)
2 PB RF
1 GND (SW)
TO
MA-82 BOARD
CN003
(See Page 17)
IC101
AN3327K
FM AUDIO
REC/PB AMP
AMPLITUDE LIMITER
AGC
LPF
CTL
DQ-6
BOARD
no mark : REC/PB mode
( ) : REC mode
< > : PB mode
RP-128 BOARD

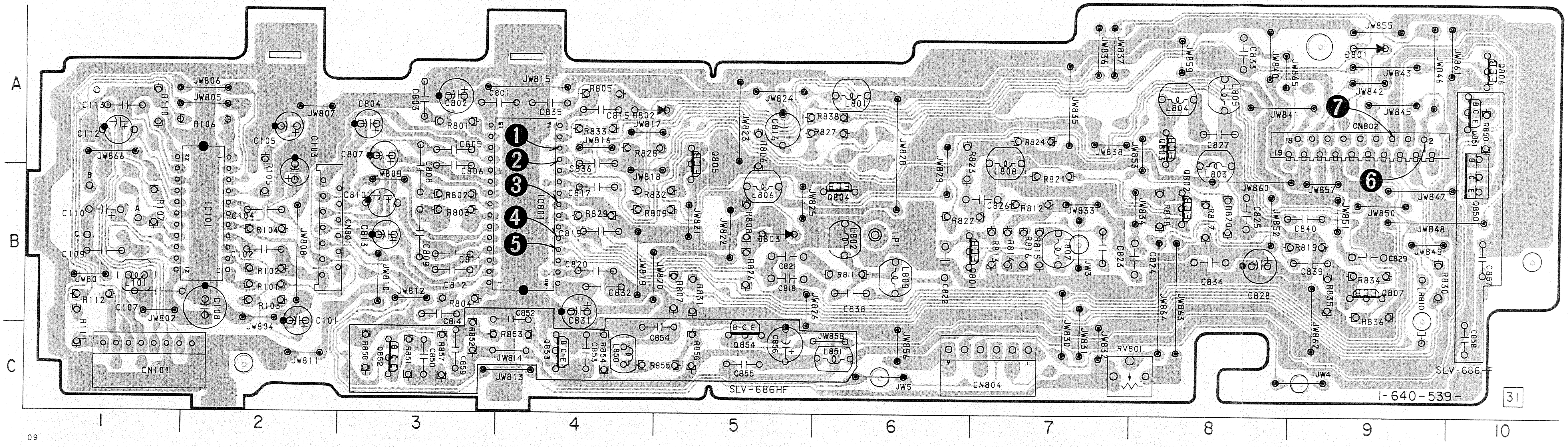
- **SIGNAL PATH**

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡➡	➡➡➡	➡
PB	⇨	⇨⇨	⇨⇨⇨	⇨

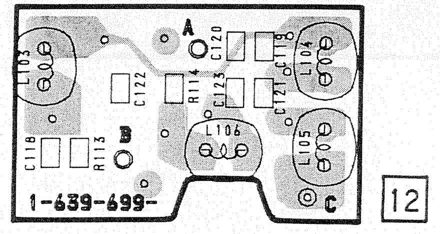
RP-128 (REC/PB HEAD AMP), DQ-6 (FILTER) PRINTED WIRING BOARDS

— Ref. No. RP-128 BOARD: 1000 series, DQ-6 BOARD: 4000 series —

RP-128 BOARD


A
B
C
1
2
3
4
5
6
7
8
9
10
IC101
IC801
CN101
CN801
CN802
CN804
D801
D802
D803
Q801
Q802
Q803
Q804
Q805
Q806
Q807
Q808
Q850
Q851
Q852
Q853
Q854
RV801
SLV-686HF
1-640-539-
31
09

DQ-6 BOARD


L103
C122
C120
R114
C123
C121
L104
C118
R113
L106
L105
A
B
C
1-639-699-
12

(DIODE)

D801	8-719-911-19	DIODE	1SS119
D802	8-719-911-19	DIODE	1SS119
D803	8-719-911-19	DIODE	1SS119

(IC)

IC101	8-759-421-19	IC	AN3317K
IC801	8-759-320-52	IC	HA118019NT

(TRANSISTOR)

Q801	8-729-119-76	TRANSISTOR	2SA1175-HFE	
Q802	8-729-119-78	TRANSISTOR	2SC2785-HFE	
Q803	8-729-119-78	TRANSISTOR	2SC2785-HFE	
Q804	8-729-900-89	TRANSISTOR	DTC144ES	
Q805	8-729-900-89	TRANSISTOR	DTC144ES	
Q806	8-729-900-89	TRANSISTOR	DTC144ES	
Q807	8-729-119-78	TRANSISTOR	2SC2785-HFE	
Q850	8-729-113-31	TRANSISTOR	2SB733-2	(686HF)
Q851	8-729-900-80	TRANSISTOR	DTC114ES	(686HF)
Q852	8-729-119-76	TRANSISTOR	2SA1175-HFE	(686HF)
Q853	8-729-119-76	TRANSISTOR	2SA1175-HFE	(686HF)
Q854	8-729-900-89	TRANSISTOR	DTC144ES	(686HF)

RP-128 BOARD

CN101	C-1
CN801	B-2
CN802	B-9
CN804	C-6
D801	A-9
D802	A-4
D803	B-5
IC101	B-2
IC801	B-4
Q801	B-6
Q802	B-8
Q803	B-8
Q804	B-6
Q805	B-5
Q806	A-10
Q807	B-9
Q808	A-7
Q850	B-10
Q851	A-10
Q852	C-3
Q853	C-4
Q854	C-5
RV801	C-7

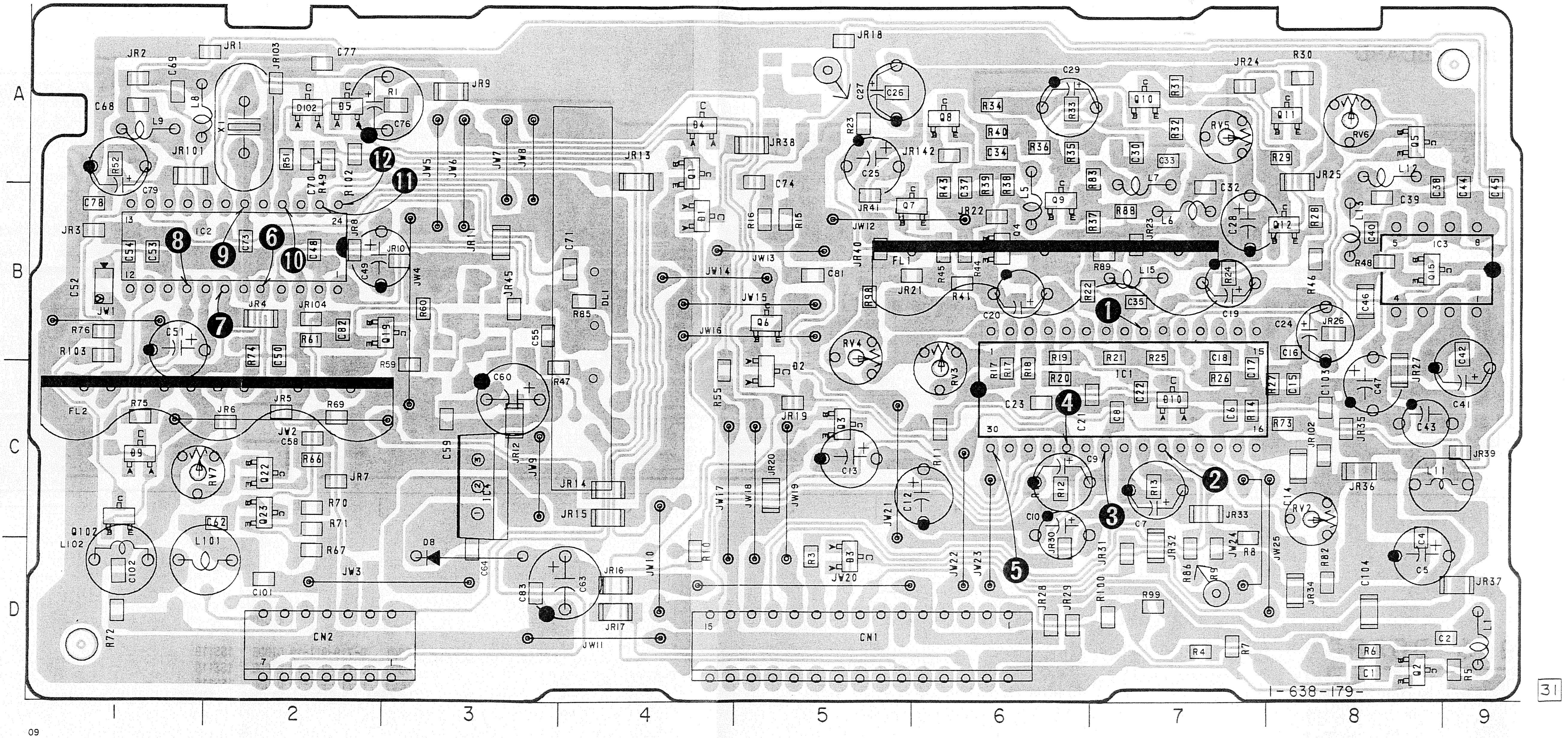
YC-112 (VIDEO PROCESS) PRINTED WIRING BOARD

— Ref. No. YC-112 BOARD: 2000 series —

YC-112 BOARD

CN001	C-4
CN002	C-2
D001	A-3
D002	B-3
D003	C-4
D004	A-3
D005	A-2
D008	C-2
D009	B-1
D010	B-5
D102	A-2
IC001	B-5
IC002	A-1
IC003	B-6
IC004	B-2
Q001	A-3
Q002	C-6
Q003	B-4
Q004	A-4
Q005	A-6
Q006	B-3
Q007	A-4
Q010	A-5
Q011	A-5
Q015	B-6
Q019	B-2
Q020	B-2
Q021	B-2
Q022	B-1
Q023	B-1
Q102	B-1
RV002	C-2
RV003	B-4
RV004	B-4
RV005	A-5
RV006	A-5
RV007	B-1

YC-112 BOARD



(DIODE)

D001	8-719-400-18	DIODE	MA152WK
D002	8-719-400-18	DIODE	MA152WK
D003	8-719-400-18	DIODE	MA152WK
D004	8-719-400-18	DIODE	MA152WK
D005	8-719-400-18	DIODE	MA152WK
D008	8-719-200-82	DIODE	11ES2
D009	8-719-400-18	DIODE	MA152WK
D010	8-719-400-18	DIODE	MA152WK
D102	8-719-400-18	DIODE	MA152WK

(IC)

IC001	8-759-821-62	IC	LA7326
IC002	8-759-821-87	IC	LA7316AN
IC003	8-759-821-50	IC	LC8991
IC004	8-759-938-15	IC	BA178M05

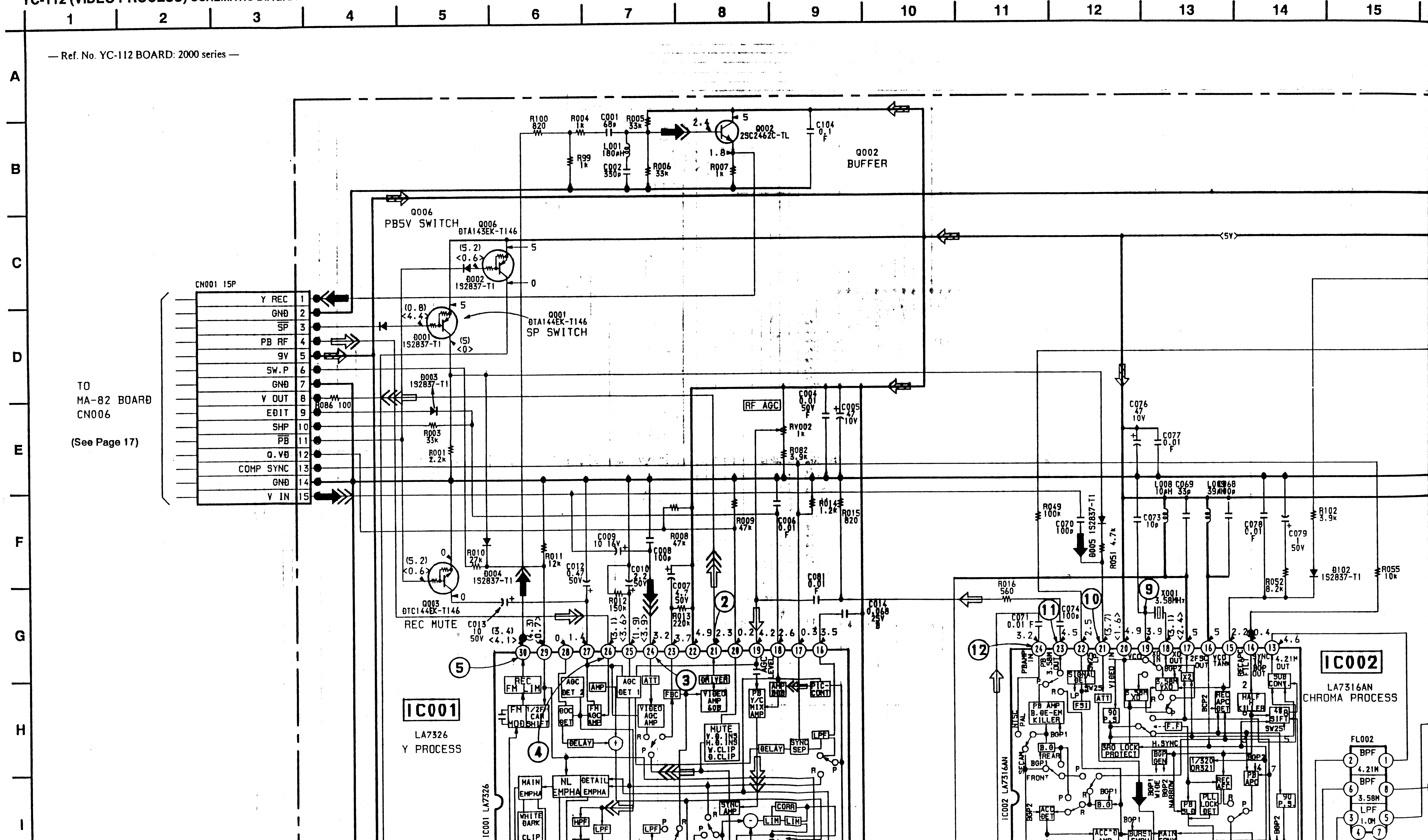
(TRANSISTOR)

Q001	8-729-901-06	TRANSISTOR	DTA144EK
Q002	8-729-230-49	TRANSISTOR	2SC2712-YG
Q003	8-729-901-01	TRANSISTOR	DTC144EK
Q004	8-729-305-25	TRANSISTOR	2SA1052-C
Q005	8-729-305-25	TRANSISTOR	2SA1052-C
Q006	8-729-901-47	TRANSISTOR	DTA143EK
Q007	8-729-230-49	TRANSISTOR	2SC2712-YG
Q008	8-729-230-49	TRANSISTOR	2SC2712-YG
Q009	8-729-230-49	TRANSISTOR	2SC2712-YG
Q010	8-729-230-49	TRANSISTOR	2SC2712-YG
Q011	8-729-305-25	TRANSISTOR	2SA1052-C
Q012	8-729-305-25	TRANSISTOR	2SA1052-C
Q015	8-729-230-49	TRANSISTOR	2SC2712-YG
Q019	8-729-620-06	TRANSISTOR	2SC3052-EF
Q022	8-729-305-25	TRANSISTOR	2SA1052-C
Q023	8-729-620-06	TRANSISTOR	2SC3052-EF
Q102	8-729-900-53	TRANSISTOR	DTC114EK

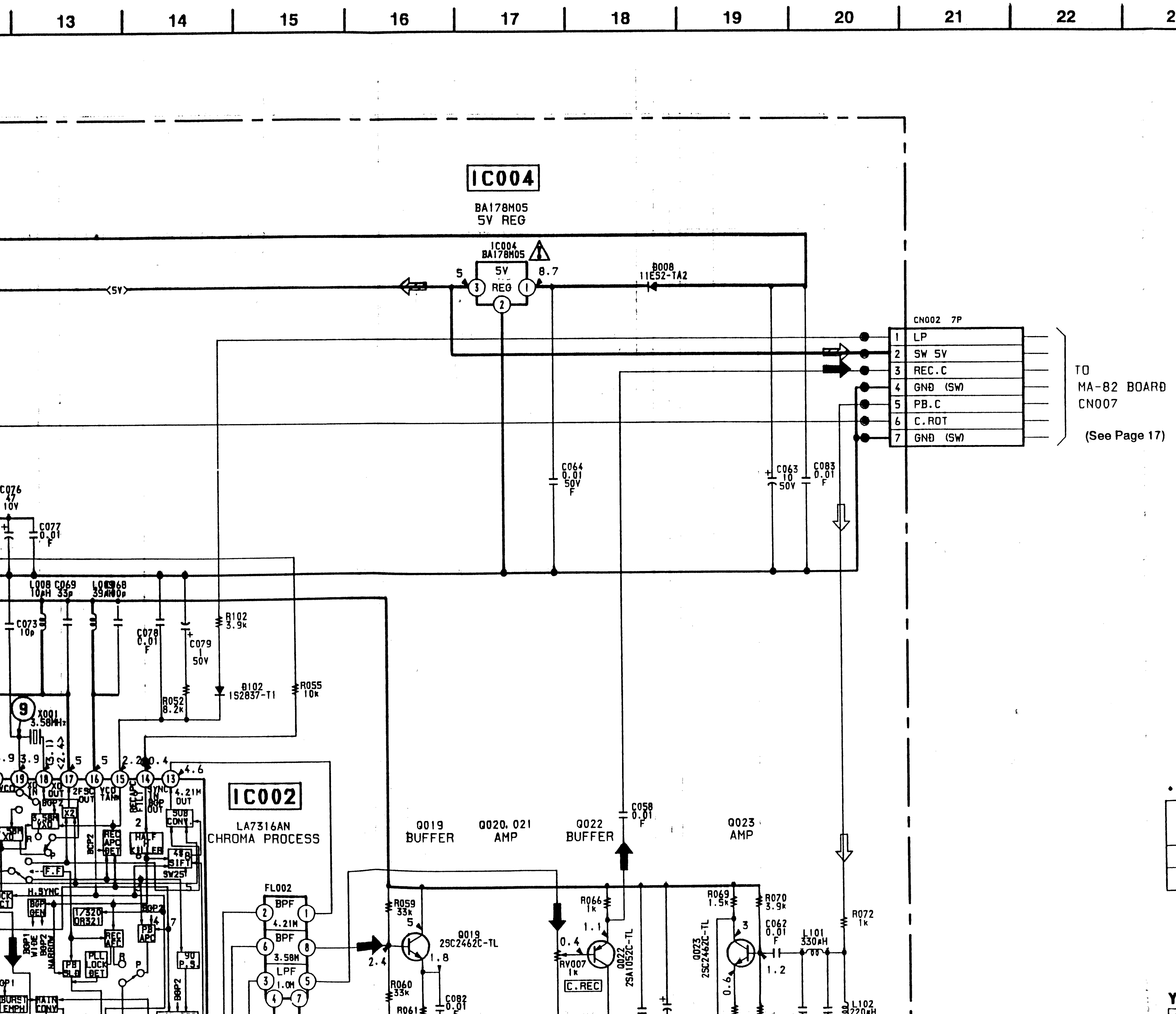
P. 2

YC-112 (VIDEO PROCESS) SCHEMATIC DIAGRAM

— Ref. No. YC-112 BOARD: 2000 series —


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
I
TO
MA-82 BOARD
CN006
(See Page 17)
CN001 15P
Y REC 1
GND 2
SP 3
PB RF 4
9V 5
SW.P 6
GND 7
V OUT 8
EDIT 9
SHP 10
PB 11
Q.VD 12
COMP SYNC 13
GND 14
V IN 15
R100 820
R004 1k
C001 68p
R005 33k
L001 180μH
R99 1k
C002 330p
R006 33k
R007 1k
Q002 2SC2462C-TL
C104 0.1 F
Q002 BUFFER
Q006 PB5V SWITCH
Q006 DTA143EK-T146
D002 1S2837-T1
Q001 DTA144EK-T146
SP SWITCH
D001 1S2837-T1
D003 1S2837-T1
R086 100
R003 33k
R001 2.2k
R010 27k
D004 1S2837-T1
Q003 DTC144EK-T146
REC MUTE
C013 10 50V
R011 12k
C012 0.47 50V
C009 10 16V
C010 2.2 50V
R012 150k
C008 100p
R008 47k
C007 4.7 50V
R013 220k
R009 47k
RF AGC
C004 0.01 50V F
C005 47 10V
RV002 1k
R082 3.9k
R014 1.2k
R015 820
C006 0.01 F
C081 0.01 F
C014 0.068 25V B
IC001
LA7326
Y PROCESS
REC FM LIM
FM MOD
1/2FH CAR SHIFT
AGC DET 2
AMP
AGC DET 1
ATT
FBC
DRIVER
VIDEO AMP 6dB
VIDEO AGC AMP
FM AGC AMP
DOC DET
DELAY
MUTE V.D. INS H.D. INS W.CLIP D.CLIP
PB Y/C MIX AMP
AMP 6dB
PIC-CONT
DELAY
SYNC SEP
LPF
MAIN EMPHA
NL EMPHA
DETAIL EMPHA
WHITE DARK CLIP
HPF
LPF
SYNC AMP
CORR
LIM
<5V>
C076 47 10V
C077 0.01 F
L008 10μH
C069 33p
L009 39μH
C068 100p
R049 100k
C070 100p
D005 1S2837-T1
R051 4.7k
C073 10p
C078 0.01 F
C079 1 50V
R102 3.9k
R052 8.2k
D102 1S2837-T1
R055 10k
R016 560
C071 0.01 F
C074 100p
X001 3.58MHz
IC002
LA7316AN
CHROMA PROCESS
PB AMP B.DE-EM KILLER
SIGNAL DET
SW25
ATT
FSI
90
VCO
3.58M VXO
X2
REC APC DET
HALF KILLER
4.21M OUT
SUB CONV.
4fH BIF
SW25
F.F
BRD LOCK PROTECT
H.SYNC
BGP GEN
1/320 OR321
REC AFC
PB APC
PLL LOCK DET
PB BLD
B.D REAR
FRONT
B.D
ACC DET
BURST EMPH
MAIN CONV
FL002
BPF 4.21M
BPF 3.58M
LPF 1.0M

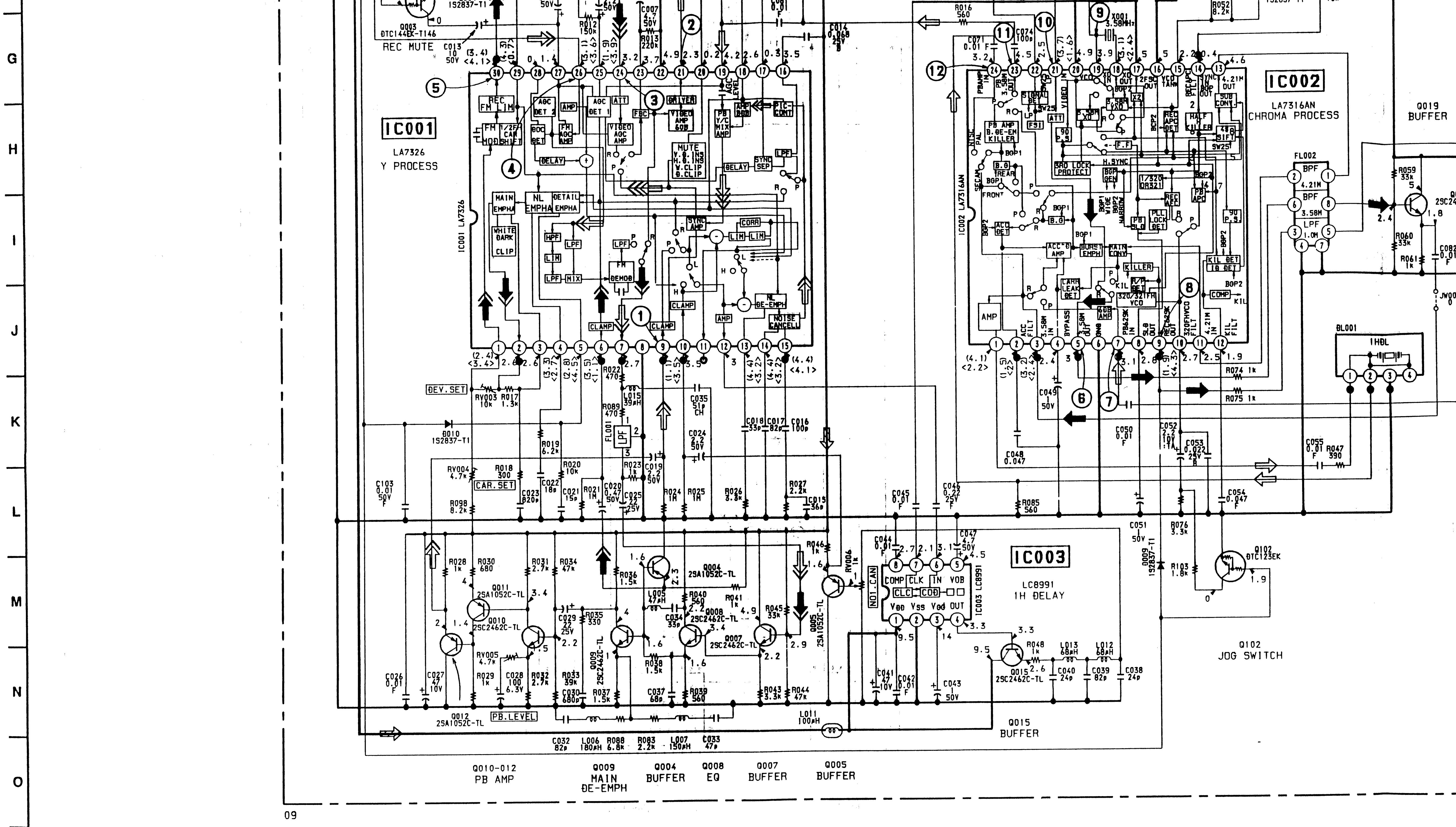
Suppl.

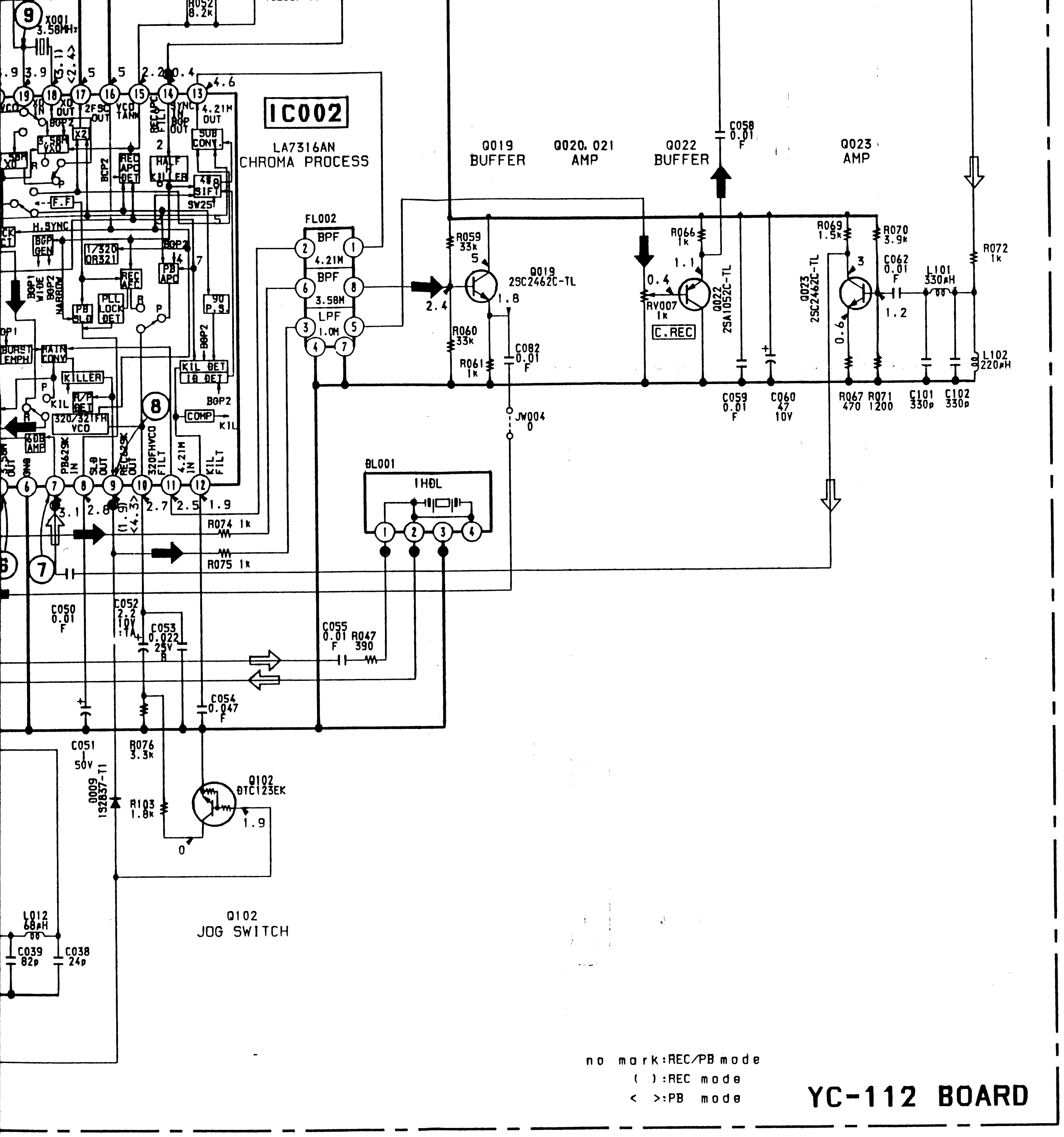

13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
IC004
BA178M05
5V REG
IC004
BA178M05
5V
REG
8.7
5
<5V>
D008
11ES2-TA2
CN002 7P
1 LP
2 SW 5V
3 REC.C
4 GND (SW)
5 PB.C
6 C.ROT
7 GND (SW)
TO
MA-82 BOARD
CN007
(See Page 17)
C064
0.01
50V
F
C063
10
50V
C083
0.01
F
C076
47
10V
C077
0.01
F
L008 C069
10μH 33p
L009 C068
39μH 100p
C073
10p
C078
0.01
F
C079
1
50V
R102
3.9k
D102
1S2837-T1
R055
10k
R052
8.2k
X001
3.58MHz
IC002
LA7316AN
CHROMA PROCESS
FL002
BPF
4.21M
BPF
3.58M
LPF
1.0M
Q019
BUFFER
Q020, 021
AMP
Q022
BUFFER
Q023
AMP
C058
0.01
F
R059
33k
Q019
2SC2462C-TL
2.4
1.8
R060
33k
C082
0.01
R066
1k
1.1
0.4
RV007
1k
C.REC
Q022
2SA1052C-TL
R069
1.5k
R070
3.9k
Q023
2SC2462C-TL
C062
0.01
F
L101
330μH
1.2
0.6
R072
1k
L102
220μH
H.SYNC
BGP GEN
1/320 OR321
REC AFC
PB APC
PLL LOCK DET
HALF H KILLER
SUB CONV
4.21M OUT
90 P.S
SW25
F.F
BURST EMPH
MAIN CONV

- **SIGNAL PATH**

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡➡	➡➡➡	
PB	⇨	⇨⇨	⇨⇨⇨	

YC-112 BOARD

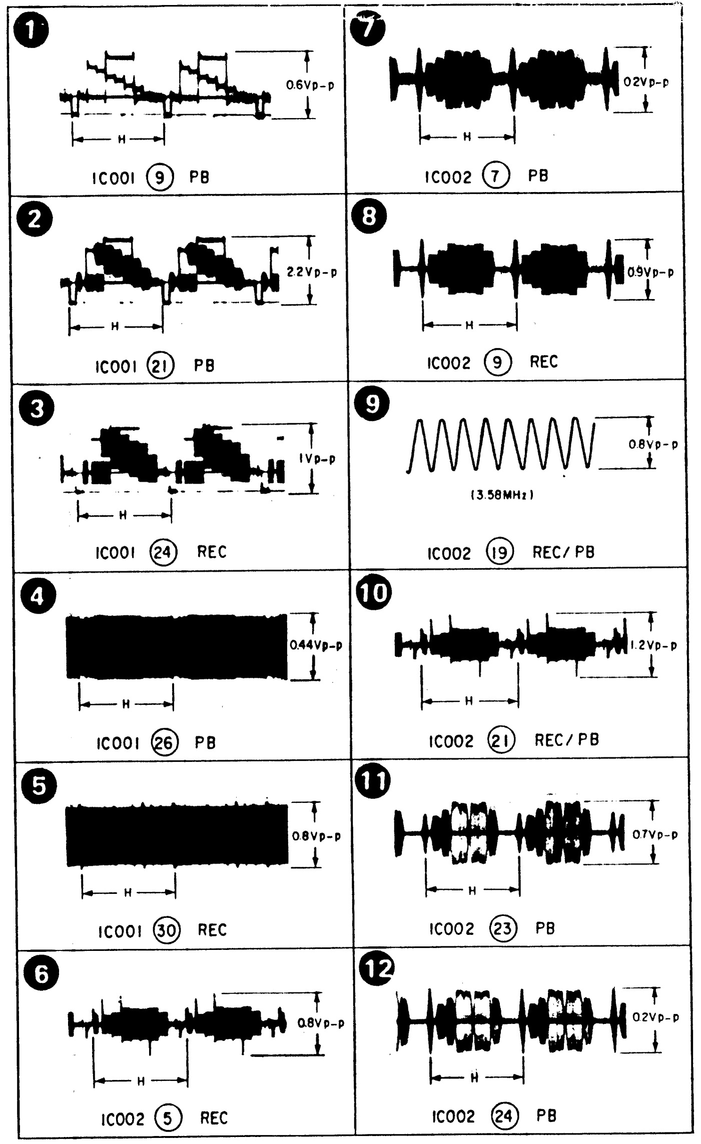

G
H
I
J
K
L
M
N
O
IC001
LA7326
Y PROCESS
IC002
LA7316AN
CHROMA PROCESS
IC003
LC8991
1H DELAY
Q019
BUFFER
REC MUTE
Q003
DTC144EK-T146
DEV.SET
CAR.SET
PB.LEVEL
FL001
FL002
BL001
1HDL
X001
3.58MHz
Q010-012
PB AMP
Q009
MAIN
DE-EMPH
Q004
BUFFER
Q008
EQ
Q007
BUFFER
Q005
BUFFER
Q015
BUFFER
Q102
JOG SWITCH
Q102
DTC123EK
09


IC002
LA7316AN
CHROMA PROCESS
X001
3.58MHz
FL002
BPF
4.21M
BPF
3.58M
LPF
1.0M
Q019
BUFFER
Q020, 021
AMP
Q022
BUFFER
Q023
AMP
Q019
2SC2462C-TL
Q022
2SA1052C-TL
Q023
2SC2462C-TL
R059
33k
R060
33k
R061
1k
C082
0.01
F
JW004
0
R066
1k
RV007
1k
C.REC
C058
0.01
F
C059
0.01
F
C060
47
10V
R069
1.5k
R070
3.9k
C062
0.01
F
L101
330μH
R072
1k
L102
220μH
R067
470
R071
1200
C101
330p
C102
330p
BL001
1HDL
R074 1k
R075 1k
C050
0.01
F
C052
2.2
10V
TA
C053
0.022
25V
B
C055
0.01
F
R047
390
C054
0.047
C051
50V
R076
3.3k
R103
1.8k
D009
1SS357-T1
Q102
DTC123EK
Q102
JOG SWITCH
L012
68μH
C039
82p
C038
24p
no mark:REC/PB mode
( ):REC mode
< >:PB mode
YC-112 BOARD

• SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡»	➡»»	
PB	⇨	⇨»	⇨»»	

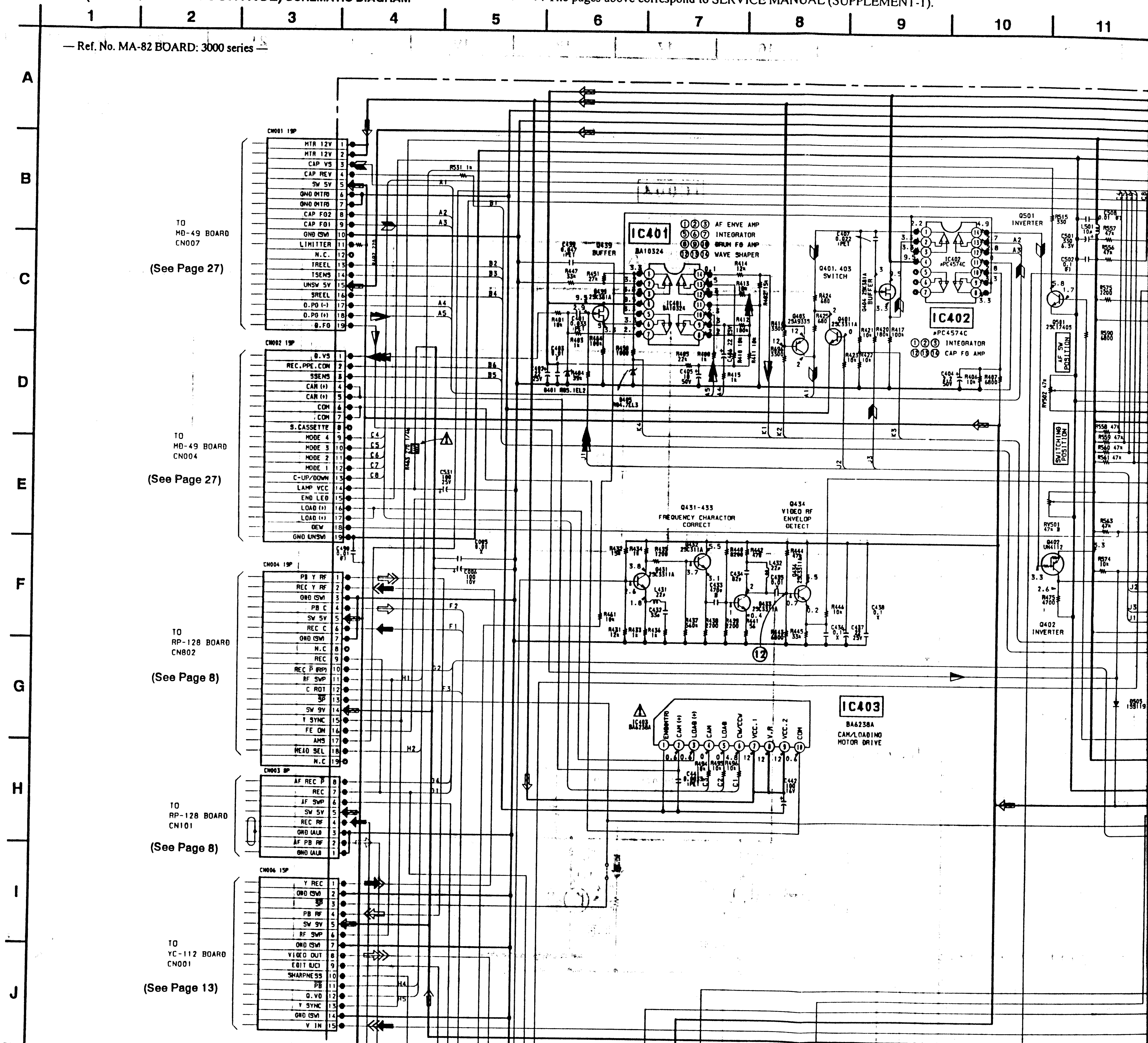
YC-112 BOARD



MA-82 (SERVO/SYSTEM CONTROL) SCHEMATIC DIAGRAM

• < >: The pages above correspond to SERVICE MANUAL (SUPPLEMENT-1).

— Ref. No. MA-82 BOARD: 3000 series —

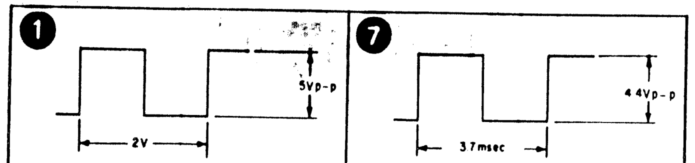

1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
CN001 19P
MTR 12V
MTR 12V
CAP VS
CAP REV
SW 5V
GND (MTR)
GND (MTR)
CAP FG2
CAP FG1
GND (SW)
LIMITTER
N.C.
T.REEL
T.SENS
UNSW 5V
S.REEL
D.PG (-)
D.PG (+)
D.FG
TO MD-49 BOARD CN007
(See Page 27)
CN002 19P
D.VS
REC.PPE.COM
S.SENS
CAM (+)
CAM (+)
COM
COM
S.CASSETTE
MODE 4
MODE 3
MODE 2
MODE 1
C-UP/DOWN
LAMP VCC
END LED
LOAD (+)
LOAD (+)
DEW
GND UNSW
TO MD-49 BOARD CN004
(See Page 27)
CN004 19P
PB Y RF
REC Y RF
GND (SW)
PB C
SW 5V
REC C
GND (SW)
N.C
REC
REC P (RP)
RF SWP
C ROT
SP
SW 9V
Y SYNC
FE ON
AMS
HEAD SEL
N.C
TO RP-128 BOARD CN802
(See Page 8)
CN003 8P
AF REC P
REC
AF SWP
SW 5V
REC RF
GND (AU)
AF PB RF
GND (AU)
TO RP-128 BOARD CN101
(See Page 8)
CN006 15P
Y REC
GND (SW)
SP
PB RF
SW 9V
RF SWP
GND (SW)
VIDEO OUT
EDIT (UC)
SHARPNESS
PB
Q.VD
Y SYNC
GND (SW)
V IN
TO YC-112 BOARD CN001
(See Page 13)
IC401
BA10324
①②③ AF ENVE AMP
⑤⑥⑦ INTEGRATOR
⑧⑨⑩ DRUM FG AMP
⑫⑬⑭ WAVE SHAPER
Q439 BUFFER
Q401, 403 SWITCH
Q404 BUFFER
IC402
μPC4574C
①②③ INTEGRATOR
⑫⑬⑭ CAP FG AMP
Q501 INVERTER
AF SW POSITION
SWITCHING POSITION
Q431-433 FREQUENCY CHARACTOR CORRECT
Q434 VIDEO RF ENVELOP DETECT
Q402 INVERTER
IC403
BA6238A
CAM/LOADING MOTOR DRIVE
⑫

- **SIGNAL PATH**

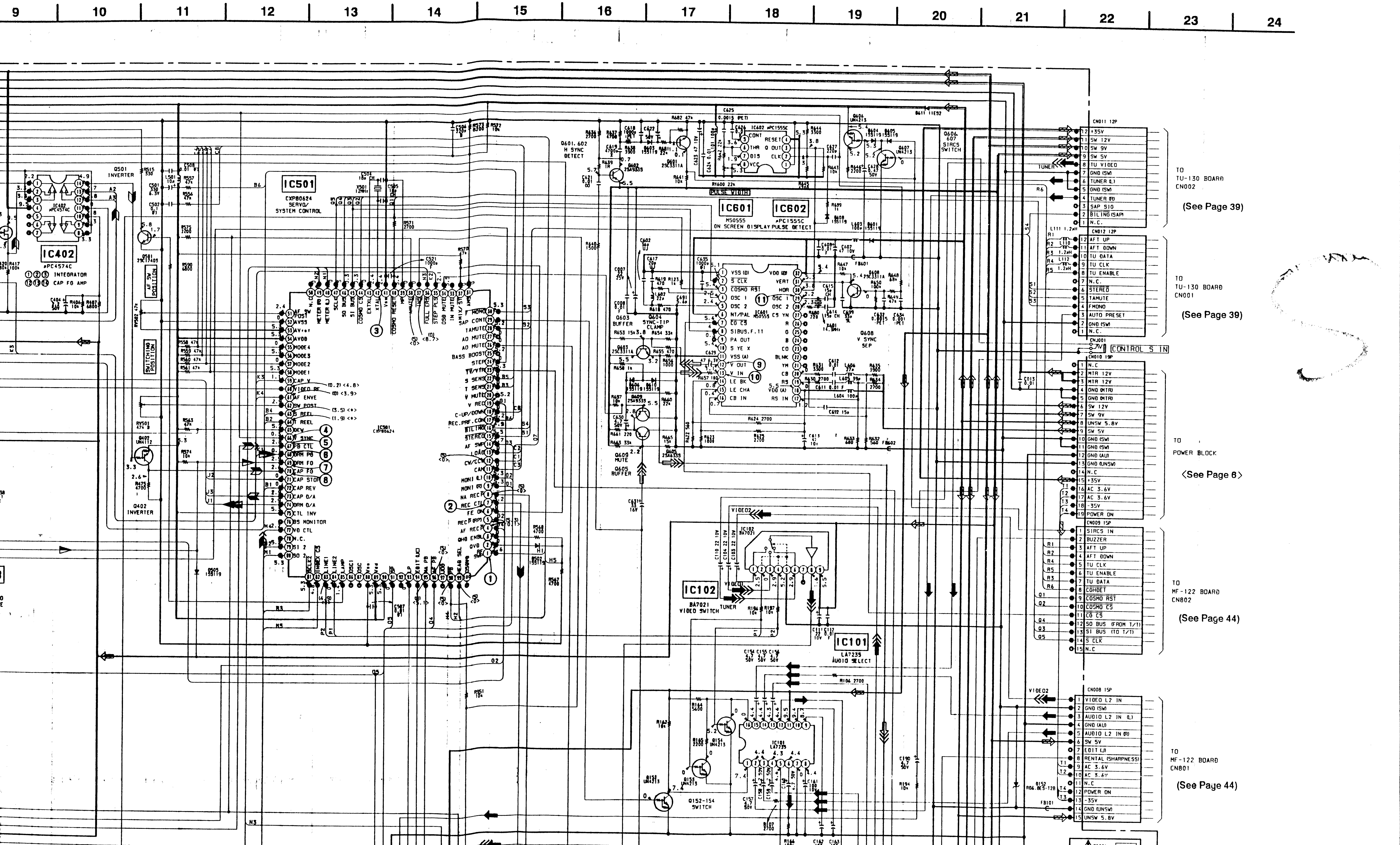
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC			➡⪢	➡
PB			⇨⪢	⇨

	REC	REC/PB	PB
Drum speed servo		▷	
Drum phase servo		⊳	
Drum servo (speed and phase)		⫸	
Capstan speed servo		⊃	
Capstan phase servo		⊃⟩	
Capstan servo (speed and phase)			
Ref. signal	➤		

MA-82 BOARD


1
5Vp-p
2V
7
4.4Vp-p
3.7msec

MENT-1).

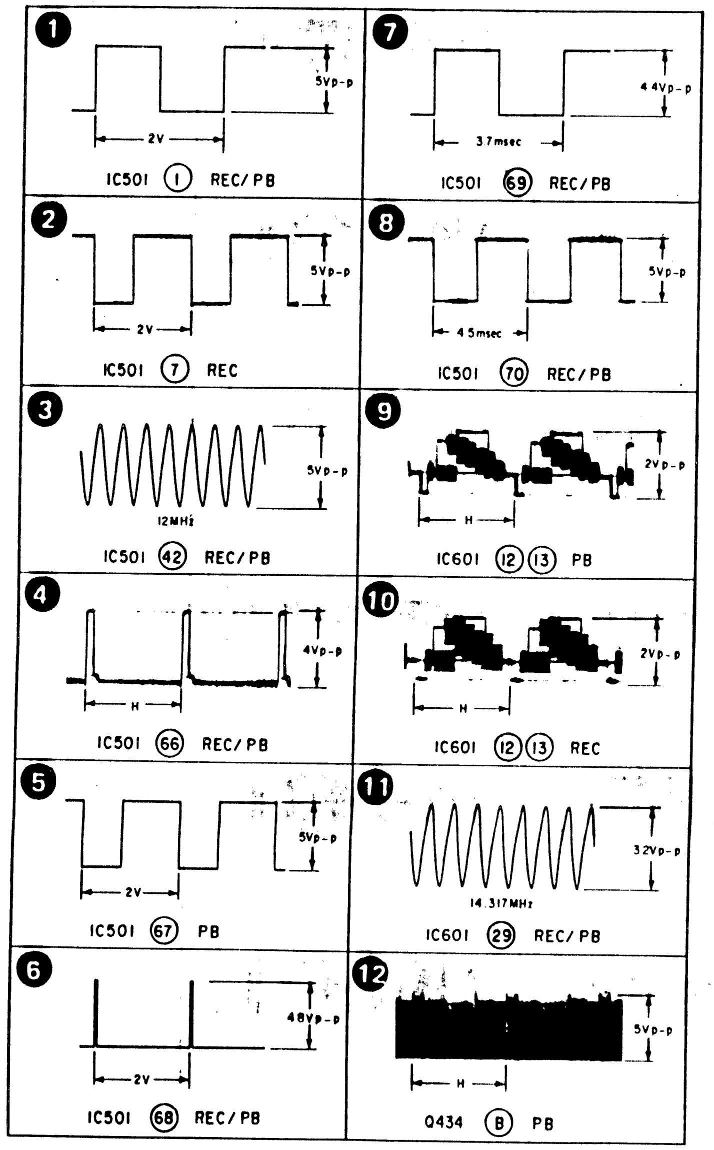


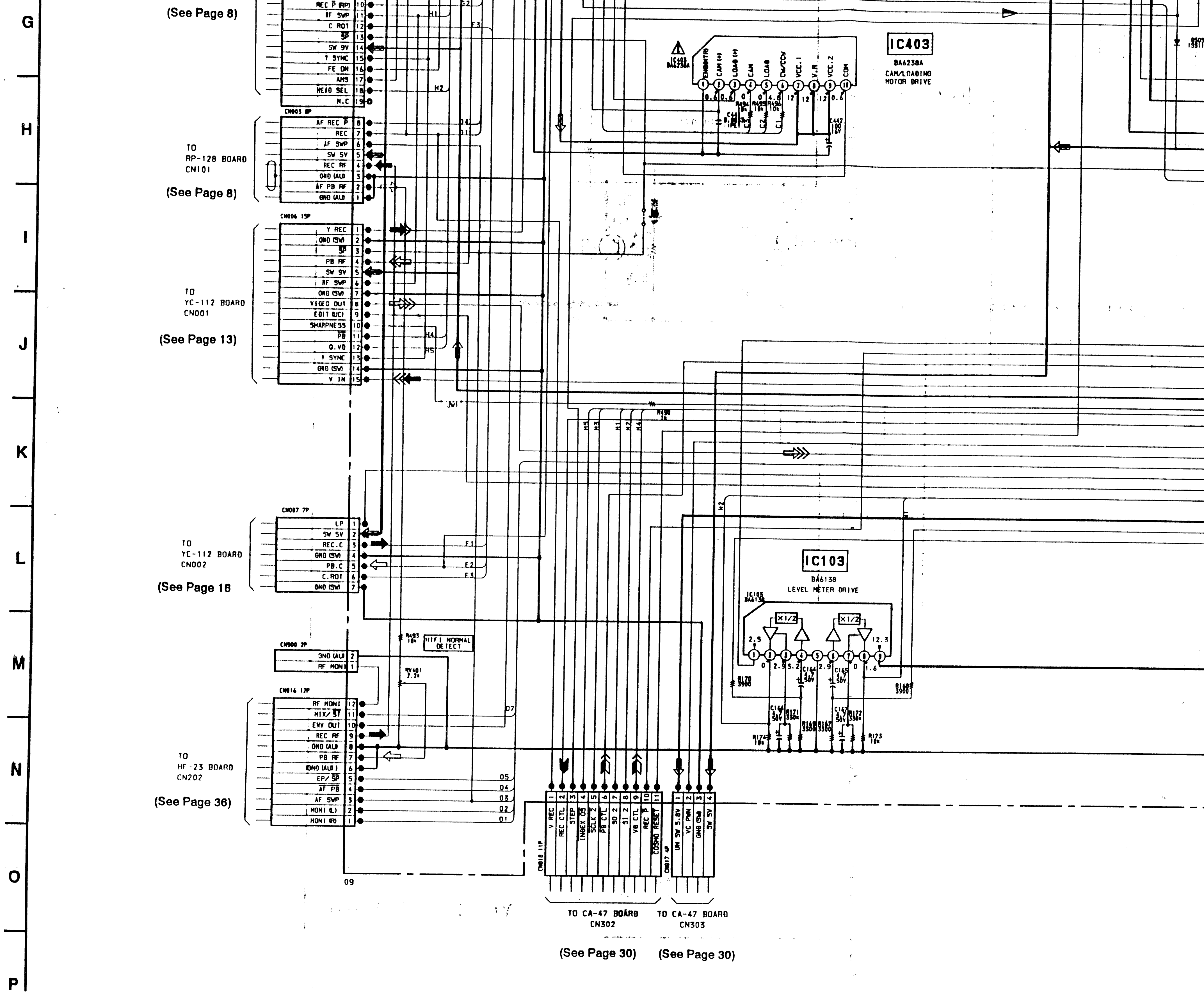
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
IC402
μPC4574C
①②③ INTEGRATOR
⑫⑬⑭ CAP FG AMP
Q501 INVERTER
IC501
CXP80624
SERVO/
SYSTEM CONTROL
AF SW POSITION
SWITCHING POSITION
Q402 INVERTER
IC601
MS0555
ON SCREEN DISPLAY
IC602
μPC1555C
PULSE DETECT
PULSE WIDTH
Q601, 602
H SYNC DETECT
Q603 BUFFER
Q604 SYNC-TIP CLAMP
Q608 V SYNC SEP
Q609 MUTE
Q605 BUFFER
Q606, 607 SIRCS SWITCH
IC102
BA7021
VIDEO SWITCH
IC101
LA7235
AUDIO SELECT
Q152-154 SWITCH
TUNER
VIDEO2
CONTROL S IN
CN011 12P
TO TU-130 BOARD CN002
(See Page 39)
CN012 12P
TO TU-130 BOARD CN001
(See Page 39)
CN010 19P
TO POWER BLOCK
(See Page 6)
CN009 15P
TO MF-122 BOARD CN802
(See Page 44)
CN008 15P
TO MF-122 BOARD CN801
(See Page 44)

REC			➡≫	➡
PB			⇨≫	⇨

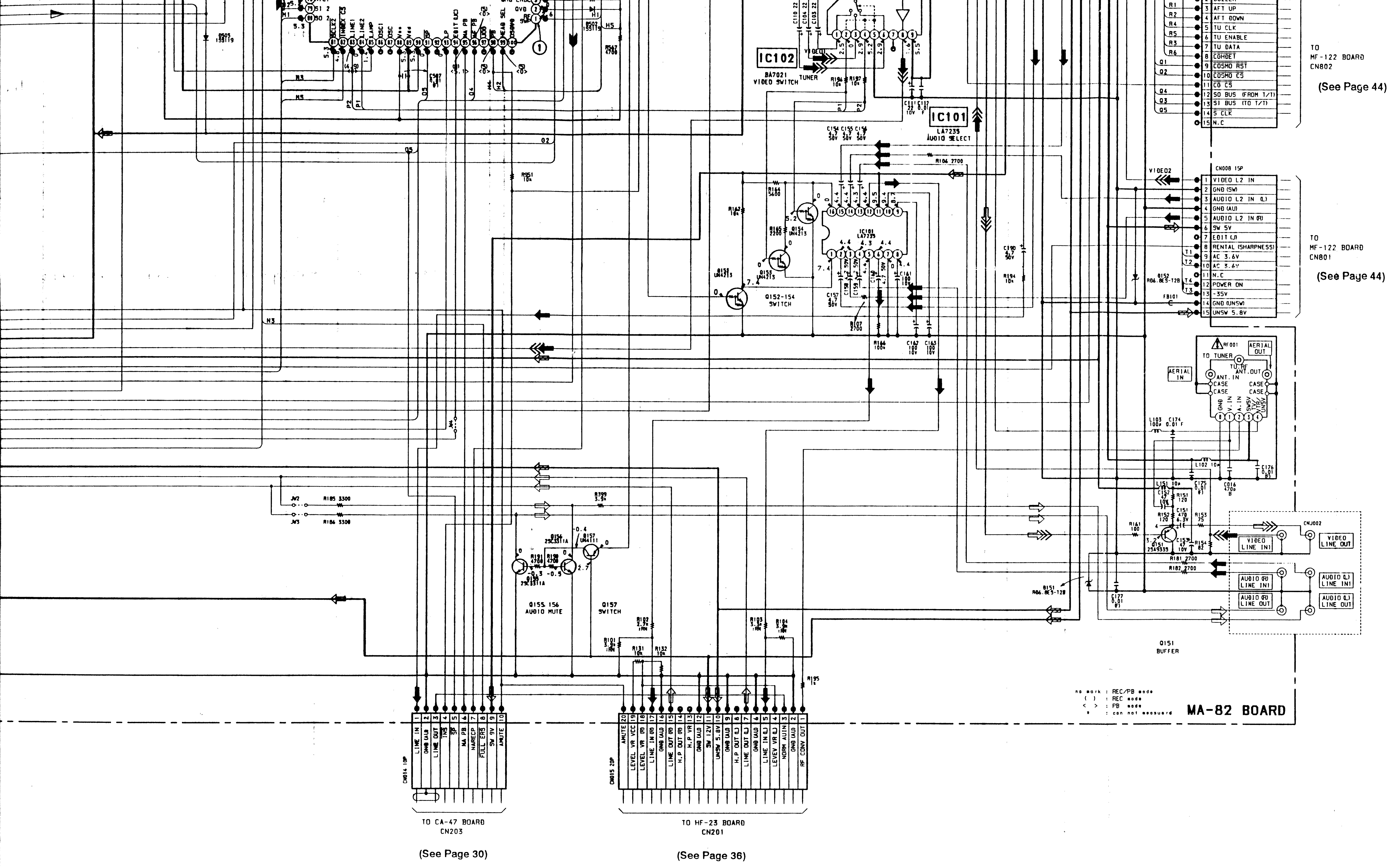
	REC	REC/PB	PB
Drum speed servo		▷	
Drum phase servo		⊳	
Drum servo (speed and phase)		⋙	
Capstan speed servo		⊐	
Capstan phase servo		⊐›	
Capstan servo (speed and phase)			
Ref. signal	➤		

MA-82 BOARD



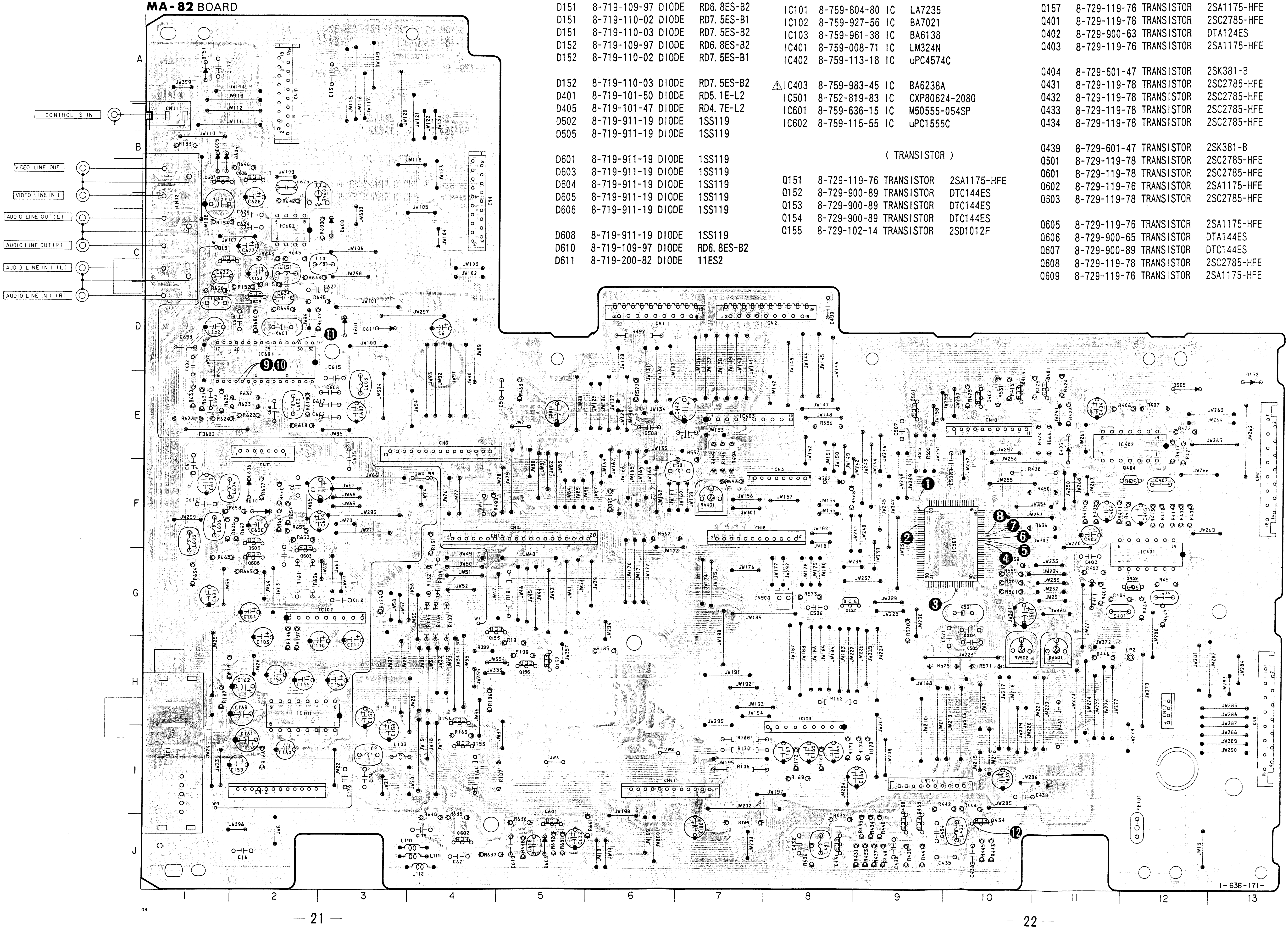


G
H
I
J
K
L
M
N
O
P
(See Page 8)
REC P (RP)
RF SWP
C ROT
SP
SW 9V
Y SYNC
FE ON
AMS
HEAD SEL
N.C
IC403
BA6238A
CAM/LOADING MOTOR DRIVE
CN003 8P
AF REC P
REC
AF SWP
SW 5V
REC RF
GND (AU)
AF PB RF
GND (AU)
TO RP-128 BOARD CN101
(See Page 8)
CN006 15P
Y REC
GND (SW)
SP
PB RF
SW 9V
RF SWP
GND (SW)
VIDEO OUT
EDIT (UC)
SHARPNESS
PB
Q.VD
Y SYNC
GND (SW)
V IN
TO YC-112 BOARD CN001
(See Page 13)
CN007 7P
LP
SW 5V
REC.C
GND (SW)
PB.C
C.ROT
GND (SW)
TO YC-112 BOARD CN002
(See Page 16)
CN900 2P
GND (AU)
RF MONI
HIFI NORMAL DETECT
CN016 12P
RF MONI
MIX/ST
ENV OUT
REC RF
GND (AU)
PB RF
GND (AU)
EP/SP
AF PB
AF SWP
MONI (L)
MONI (R)
TO HF-23 BOARD CN202
(See Page 36)
IC103
BA6138
LEVEL METER DRIVE
X1/2
X1/2
CN018 11P
V REC
REC CTL
STEP
INDEX CS
SCLK 2
PB CTL
SO 2
SI 2
VB CTL
REC P
COSMO RESET
CN017 4P
UN SW 5.8V
VC PWM
GND (SW)
SW 5V
TO CA-47 BOARD CN302
TO CA-47 BOARD CN303
(See Page 30)
(See Page 30)
09


IC102
BA7021
VIDEO SWITCH
TUNER
IC101
LA7235
AUDIO SELECT
IC101
LA7235
Q152-154
SWITCH
Q155, 156
AUDIO MUTE
Q157
SWITCH
Q151
BUFFER
1 VIDEO L2 IN
CN008 15P
3 AFT UP
4 AFT DOWN
5 TU CLK
6 TU ENABLE
7 TU DATA
8 CGHDET
9 COSMO RST
10 COSMO CS
11 CG CS
12 SO BUS (FROM T/T)
13 SI BUS (TO T/T)
14 S CLK
15 N.C
TO
MF-122 BOARD
CN802
(See Page 44)
VIDEO2
1 VIDEO L2 IN
2 GND (SW)
3 AUDIO L2 IN (L)
4 GND (AU)
5 AUDIO L2 IN (R)
6 SW 5V
7 EDIT (J)
8 RENTAL (SHARPNESS)
9 AC 3.6V
10 AC 3.6V
11 N.C
12 POWER ON
13 -35V
14 GND (UNSW)
15 UNSW 5.8V
TO
MF-122 BOARD
CN801
(See Page 44)
RF001
AERIAL OUT
TO TUNER
TU.RF
ANT.OUT
ANT.IN
AERIAL IN
CASE
CNJ002
VIDEO LINE IN1
VIDEO LINE OUT
AUDIO (R) LINE IN1
AUDIO (L) LINE IN1
AUDIO (R) LINE OUT
AUDIO (L) LINE OUT
CN014 10P
1 LINE IN
2 GND (AU)
3 LINE OUT
4 INS
5 SP
6 NA PB
7 NARECP
8 FULL ERS
9 SW 9V
10 AMUTE
TO CA-47 BOARD
CN203
(See Page 30)
CN015 20P
20 AMUTE
19 LEVEL VR VCC
18 LEVEL VR (R)
17 LINE IN (R)
16 GND (AU)
15 LINE OUT (R)
14 H.P OUT (R)
13 H.P VR
12 GND (AU)
11 SW 12V
10 UNSW 5.8V
9 GND (AU)
8 H.P OUT (L)
7 LINE OUT (L)
6 GND (AU)
5 LINE IN (L)
4 LEVEV VR (L)
3 NORM AUIN
2 GND (AU)
1 RF CONV OUT
TO HF-23 BOARD
CN201
(See Page 36)
no mark : REC/PB mode
( ) : REC mode
< > : PB mode
* : can not measuerd
MA-82 BOARD

MA-82 (SERVO/SYSTEM CONTROL) PRINTED WIRING BOARD

— Ref. No. MA-82 BOARD: 3000 series —


MA-82 BOARD
CONTROL S IN
VIDEO LINE OUT
VIDEO LINE IN I
AUDIO LINE OUT (L)
AUDIO LINE OUT (R)
AUDIO LINE IN I (L)
AUDIO LINE IN I (R)
A
B
C
D
E
F
G
H
I
J
1
2
3
4
5
6
7
8
9
10
11
12
13
IC501
IC601
IC602
IC101
IC102
IC103
IC401
IC402
IC403
CN1
CN2
CN3
CN6
CN7
CN10
CN11
CN12
CN14
CN15
CN16
CN17
CN18
CN19
RV401
RV501
RV502
X501
X601
1-638-171-
41
09

〈 DIODE 〉

D151	8-719-109-97	DIODE	RD6.8ES-B2
D151	8-719-110-02	DIODE	RD7.5ES-B1
D151	8-719-110-03	DIODE	RD7.5ES-B2
D152	8-719-109-97	DIODE	RD6.8ES-B2
D152	8-719-110-02	DIODE	RD7.5ES-B1
D152	8-719-110-03	DIODE	RD7.5ES-B2
D401	8-719-101-50	DIODE	RD5.1E-L2
D405	8-719-101-47	DIODE	RD4.7E-L2
D502	8-719-911-19	DIODE	1SS119
D505	8-719-911-19	DIODE	1SS119
D601	8-719-911-19	DIODE	1SS119
D603	8-719-911-19	DIODE	1SS119
D604	8-719-911-19	DIODE	1SS119
D605	8-719-911-19	DIODE	1SS119
D606	8-719-911-19	DIODE	1SS119
D608	8-719-911-19	DIODE	1SS119
D610	8-719-109-97	DIODE	RD6.8ES-B2
D611	8-719-200-82	DIODE	11ES2

〈 IC 〉

IC101	8-759-804-80	IC	LA7235
IC102	8-759-927-56	IC	BA7021
IC103	8-759-961-38	IC	BA6138
IC401	8-759-008-71	IC	LM324N
IC402	8-759-113-18	IC	uPC4574C
⚠IC403	8-759-983-45	IC	BA6238A
IC501	8-752-819-83	IC	CXP80624-208Q
IC601	8-759-636-15	IC	M50555-054SP
IC602	8-759-115-55	IC	uPC1555C

〈 TRANSISTOR 〉

Q151	8-729-119-76	TRANSISTOR	2SA1175-HFE
Q152	8-729-900-89	TRANSISTOR	DTC144ES
Q153	8-729-900-89	TRANSISTOR	DTC144ES
Q154	8-729-900-89	TRANSISTOR	DTC144ES
Q155	8-729-102-14	TRANSISTOR	2SD1012F
Q156	8-729-102-14	TRANSISTOR	2SD1012F
Q157	8-729-119-76	TRANSISTOR	2SA1175-HFE
Q401	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q402	8-729-900-63	TRANSISTOR	DTA124ES
Q403	8-729-119-76	TRANSISTOR	2SA1175-HFE
Q404	8-729-601-47	TRANSISTOR	2SK381-B
Q431	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q432	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q433	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q434	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q439	8-729-601-47	TRANSISTOR	2SK381-B
Q501	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q601	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q602	8-729-119-76	TRANSISTOR	2SA1175-HFE
Q603	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q605	8-729-119-76	TRANSISTOR	2SA1175-HFE
Q606	8-729-900-65	TRANSISTOR	DTA144ES
Q607	8-729-900-89	TRANSISTOR	DTC144ES
Q608	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q609	8-729-119-76	TRANSISTOR	2SA1175-HFE

MA-82 BOARD

CN001	D-6
CN002	D-7
CN003	F-8
CN004	C-4
CN006	E-4
CN007	E-2
CN008	F-13
CN009	I-13
CN010	A-2
CN011	I-6
CN012	I-2
CN014	I-9
CN015	F-5
CN016	F-7
CN017	I-12
CN018	E-10
D150	G-8
D151	A-1
D152	E-13
D160	H-3
D161	H-3
D162	I-3
D163	I-2
D201	I-5
D202	I-5
D401	G-11
D405	F-11
D410	E-5
D411	F-4
D412	F-5
D413	F-5
D502	F-8
D505	E-12
D601	D-3
D603	J-5
D604	B-1
D605	B-1
D606	F-2
D608	C-2
D609	D-2
D610	D-1
D611	D-3
IC101	H-2
IC102	G-2
IC103	I-8
IC201	H-6
IC202	H-5
IC401	F-12
IC402	E-12
IC403	E-7
IC501	F-10
IC601	D-2
IC602	C-2
Q151	C-1
Q152	G-8
Q153	I-4
Q154	I-4
Q155	H-4
Q156	H-5
Q157	H-5
Q201	I-4
Q202	H-6
Q203	I-6
Q204	I-5
Q401	E-11
Q402	E-10
Q403	E-10
Q404	F-11
Q431	J-8
Q432	J-9
Q433	J-9
Q434	J-10
Q439	J-11
Q440	F-3
Q450	F-5
Q501	E-9
Q601	J-5
Q602	J-4
Q603	G-2
Q604	F-2
Q605	G-2
Q606	B-2
Q607	B-1
Q608	D-1
Q609	F-2
RV401	F-11
RV501	H-11
RV502	H-10
RV600	C-3

MD-49 (MOTOR DRIVE) PRINTED WIRING BOARD

— Ref. No. MD-49 BOARD: 4000 series —

MD-49 BOARD

CN001	A-9
CN002	A-1
CN003	E-1
CN004	B-1
CN005	C-1
CN006	F-8
D001	D-5
D004	D-1
D005	D-9
D006	F-6
D007	F-5
IC002	A-5
IC004	C-8
Q001	C-1
Q002	C-9

〈 DIODE 〉

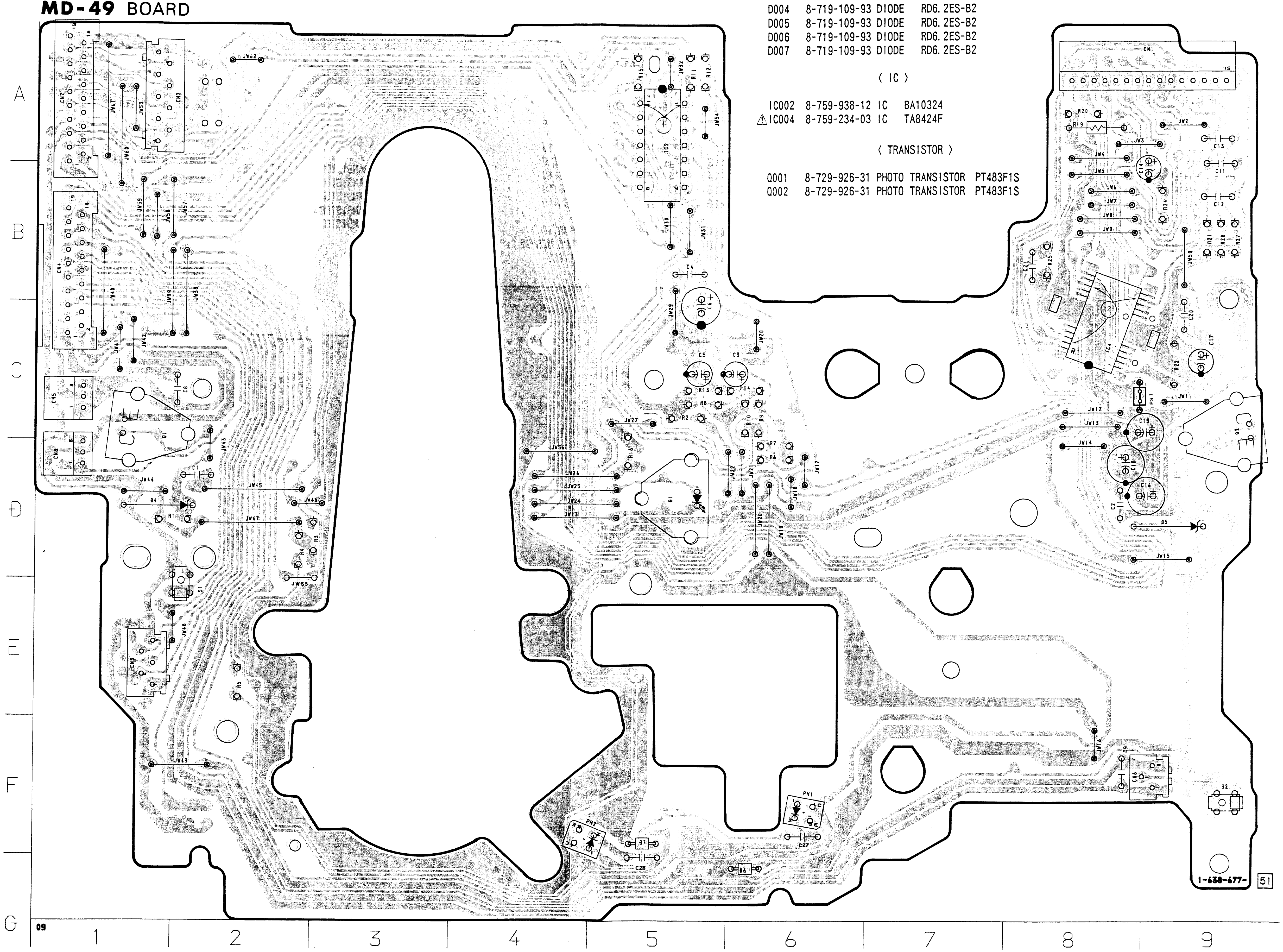
D001	8-719-985-00	DIODE	GL451VS1
D004	8-719-109-93	DIODE	RD6. 2ES-B2
D005	8-719-109-93	DIODE	RD6. 2ES-B2
D006	8-719-109-93	DIODE	RD6. 2ES-B2
D007	8-719-109-93	DIODE	RD6. 2ES-B2

〈 IC 〉

IC002	8-759-938-12	IC	BA10324
⚠IC004	8-759-234-03	IC	TA8424F

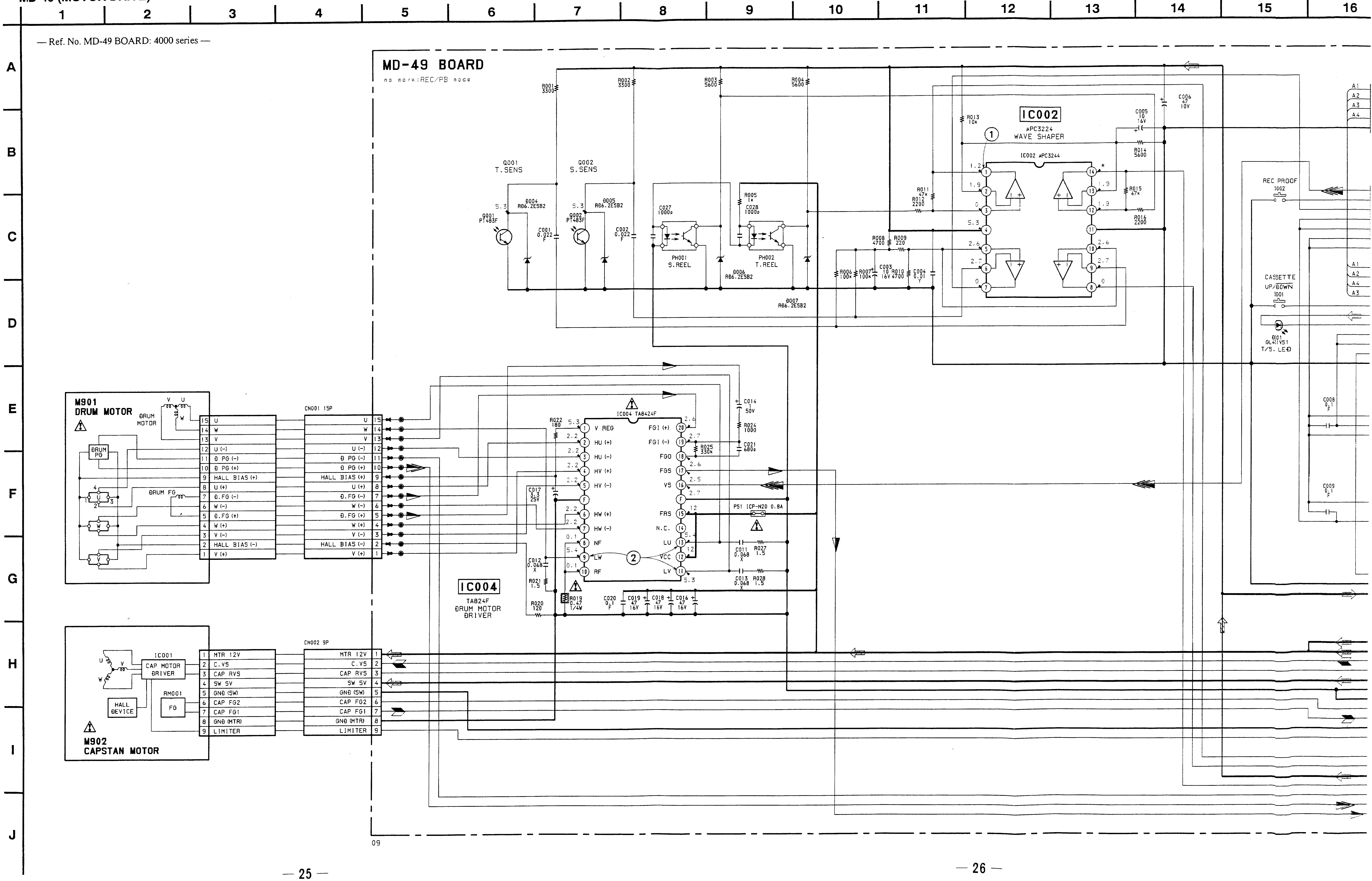
〈 TRANSISTOR 〉

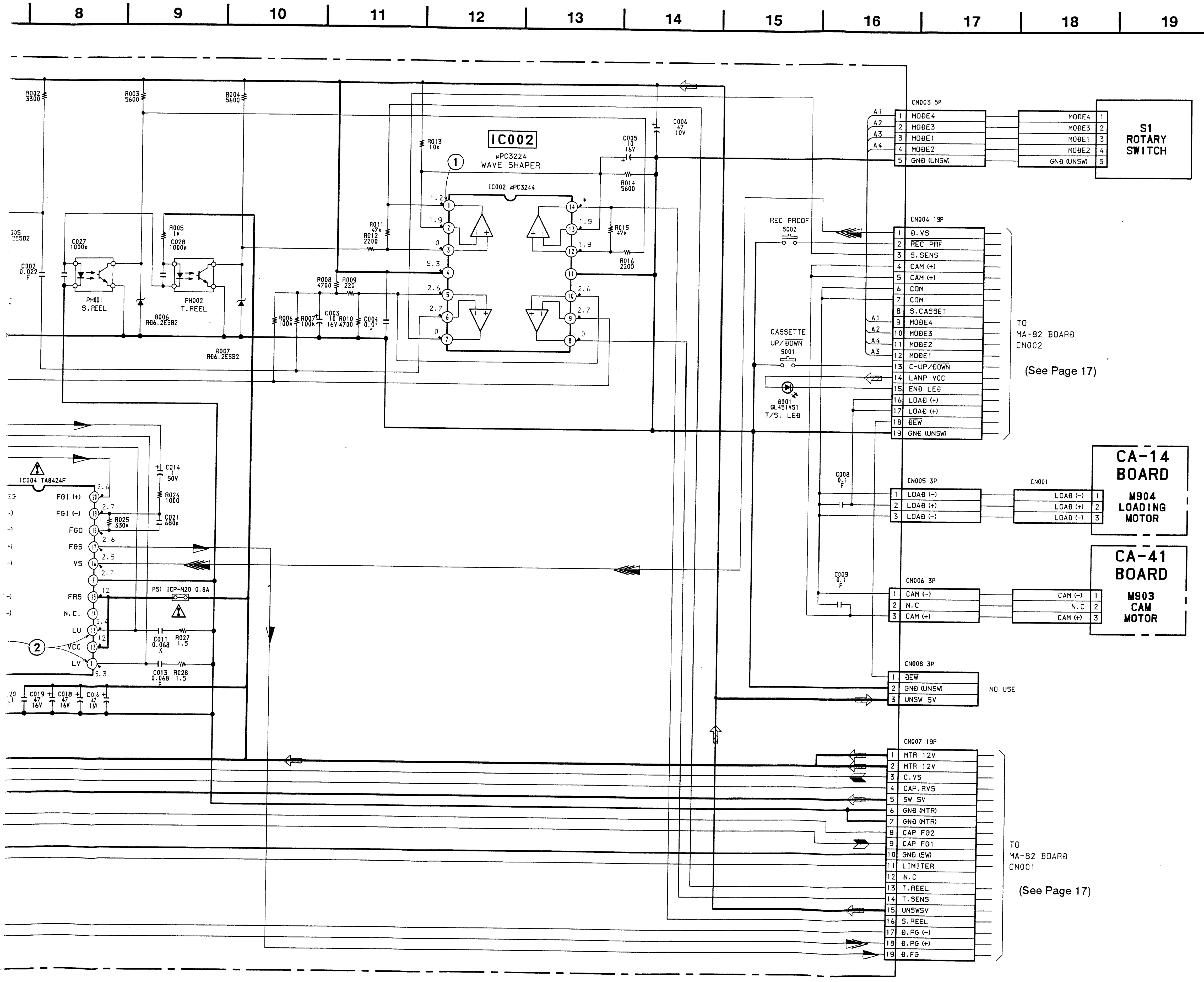
Q001	8-729-926-31	PHOTO TRANSISTOR	PT483F1S
Q002	8-729-926-31	PHOTO TRANSISTOR	PT483F1S


MD-49 BOARD
A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
09
CN7
CN2
CN4
CN5
CN8
CN3
CN1
CN6
IC2
IC4
Q1
Q2
PH1
PH2
S1
S2
JW42
JW41
JW53
JW40
JW59
JW58
JW57
JW39
JW38
JW42
JW43
JW44
JW45
JW46
JW47
JW48
JW49
JW63
JW56
JW26
JW25
JW24
JW23
JW27
JW22
JW21
JW20
JW19
JW18
JW17
JW28
JW29
JW30
JW31
JW32
JW54
JW2
JW3
JW4
JW5
JW6
JW7
JW8
JW9
JW11
JW12
JW13
JW14
JW15
JW16
JW50
C1
C2
C4
C5
C8
C9
C11
C12
C13
C14
C16
C17
C18
C19
C20
C21
C27
C28
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
R15
R16
R19
R20
R21
R22
R24
R25
R26
R27
R28
D4
D5
D6
D7
FS1
1-638-477-
51

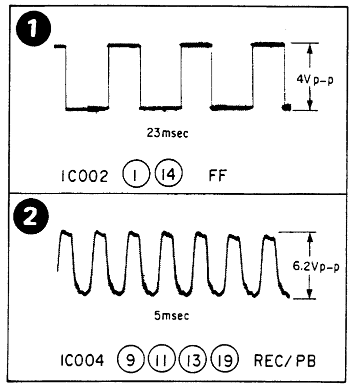
MD-49 (MOTOR DRIVE) SCHEMATIC DIAGRAM

— Ref. No. MD-49 BOARD: 4000 series —


MD-49 BOARD
no mark:REC/PB mode
IC002
μPC3224
WAVE SHAPER
IC004
TA8424F
DRUM MOTOR DRIVER
IC004 TA8424F
M901
DRUM MOTOR
M902
CAPSTAN MOTOR
IC001
CAP MOTOR DRIVER
HALL DEVICE
RM001
FG
DRUM PG
DRUM FG
CN001 15P
CN002 9P
Q001
T.SENS
Q002
S.SENS
PH001
S.REEL
PH002
T.REEL
REC PROOF
S002
CASSETTE UP/DOWN
S001
D101
GL451V51
T/S. LED
PS1 ICP-N20 0.8A
U
W
V
U (-)
D PG (-)
D PG (+)
HALL BIAS (+)
U (+)
D.FG (-)
W (-)
D.FG (+)
W (+)
V (-)
HALL BIAS (-)
V (+)
MTR 12V
C.VS
CAP RVS
SW 5V
GND (SW)
CAP FG2
CAP FG1
GND (MTR)
LIMITER
V REG
HU (+)
HU (-)
HV (+)
HV (-)
HW (+)
HW (-)
NF
LW
RF
FG1 (+)
FG1 (-)
FGO
FGS
VS
FRS
N.C.
LU
VCC
LV
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
J
09


8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
R002 3300
R003 5600
R004 5600
IC002
µPC3224
WAVE SHAPER
IC002 µPC3244
R013 10k
C005 10 16V
C006 47 10V
R014 5600
R011 47k
R012 2200
R015 47k
R016 2200
R008 4700
R009 220
R006 100k
R007 100k
C003 10 16V
R010 4700
C004 0.01
C027 1000p
R005 1k
C028 1000p
C002 0.022
PH001 S.REEL
PH002 T.REEL
D006 RB6.2ESB2
D007 RB6.2ESB2
IC004 TA8424F
FG1 (+)
FG1 (-)
FGO
FGS
VS
FRS
N.C.
LU
VCC
LV
C014 1 50V
R024 1000
R025 330k
C021 680p
PS1 ICP-N20 0.8A
C011 0.068
R027 1.5
C013 0.068
R028 1.5
C019 47 16V
C018 47 16V
C016 47 16V
CN003 5P
MODE4
MODE3
MODE1
MODE2
GND (UNSW)
S1 ROTARY SWITCH
REC PROOF S002
CN004 19P
D.VS
REC PRF
S.SENS
CAM (+)
CAM (+)
COM
COM
S.CASSET
MODE4
MODE3
MODE2
MODE1
C-UP/DOWN
LANP VCC
END LED
LOAD (+)
LOAD (+)
DEW
GND (UNSW)
CASSETTE UP/DOWN S001
D001 GL451VS1 T/S. LED
TO MA-82 BOARD CN002
(See Page 17)
C008 0.1 F
CN005 3P
LOAD (-)
LOAD (+)
LOAD (-)
CN001
CA-14 BOARD
M904 LOADING MOTOR
C009 0.1 F
CN006 3P
CAM (-)
N.C
CAM (+)
CA-41 BOARD
M903 CAM MOTOR
CN008 3P
DEW
GND (UNSW)
UNSW 5V
NO USE
CN007 19P
MTR 12V
MTR 12V
C.VS
CAP.RVS
SW 5V
GND (MTR)
GND (MTR)
CAP FG2
CAP FG1
GND (SW)
LIMITER
N.C
T.REEL
T.SENS
UNSWSV
S.REEL
D.PG (-)
D.PG (+)
D.FG
TO MA-82 BOARD CN001
(See Page 17)

MD-49 BOARD



- **SIGNAL PATH**

	REC	REC/PB	PB
Drum speed servo		▷	
Drum phase servo		▷▷	
Drum servo (speed and phase)		▷▷▷	
Capstan speed servo		⇨	
Capstan phase servo		⇨⇨	
Capstan servo (speed and phase)			
Ref. signal			

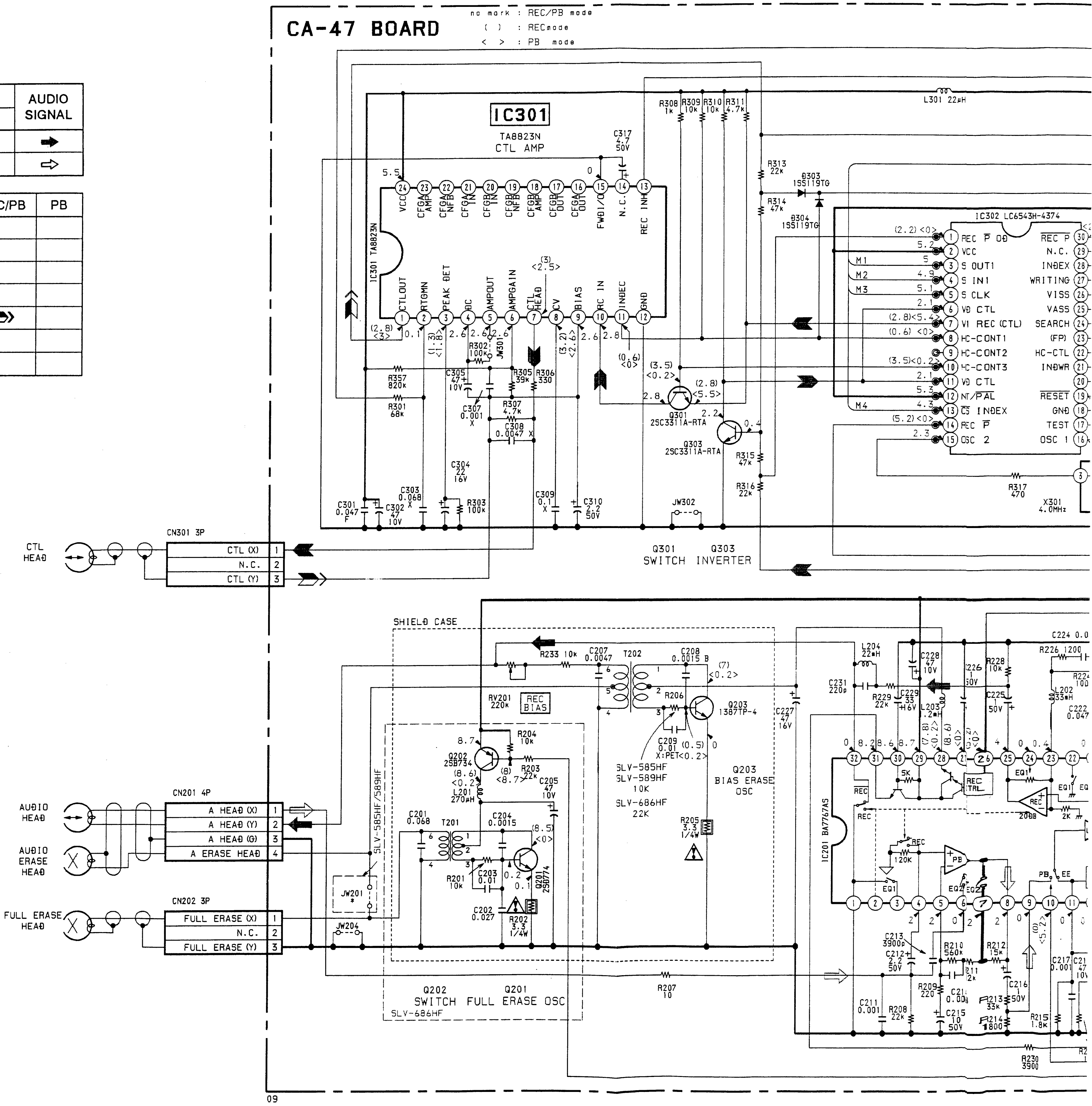
CA-47 (CTL/AUDIO HEAD AMP) SCHEMATIC DIAGRAM

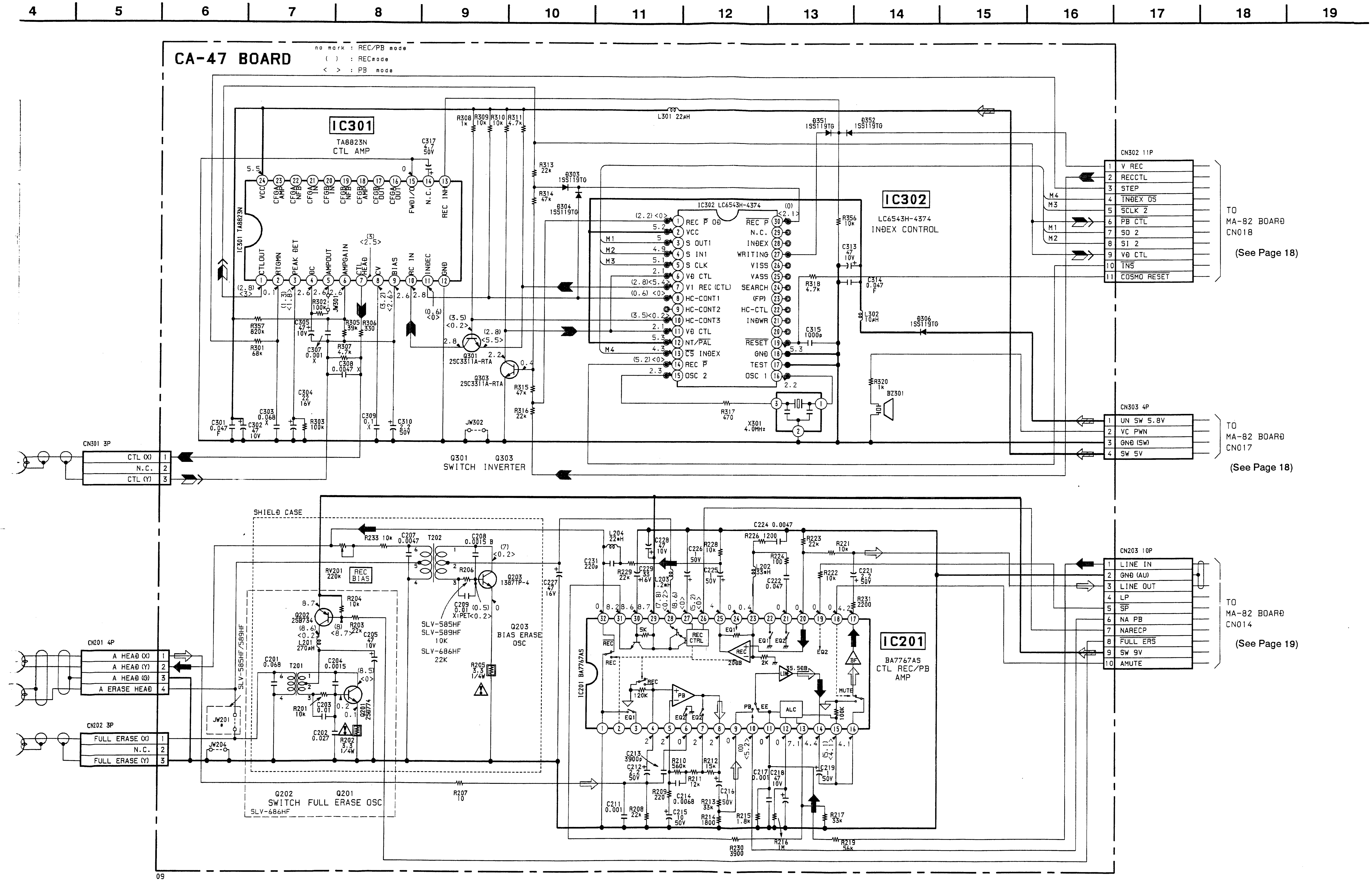
— Ref. No. CA-47 BOARD: 4000 series —

- **SIGNAL PATH**

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				➡
PB				⇨

	REC	REC/PB	PB
Drum speed servo			
Drum phase servo			
Drum servo (speed and phase)			
Capstan speed servo			
Capstan phase servo		⇛	
Capstan servo (speed and phase)			
Ref. signal	➤		

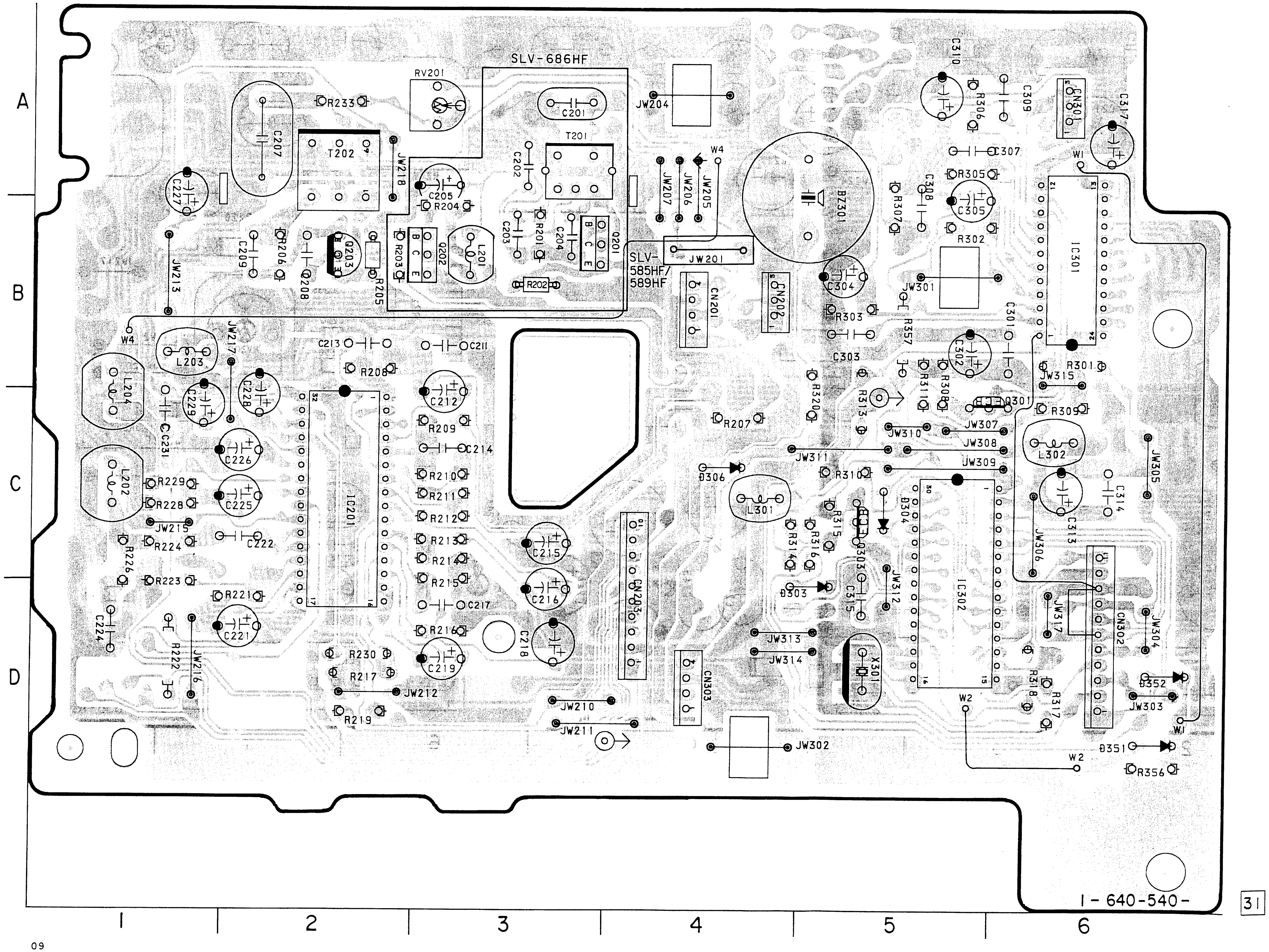

CA-47 BOARD
no mark : REC/PB mode
( ) : REC mode
< > : PB mode
IC301
TA8823N
CTL AMP
IC302 LC6543H-4374
CTL HEAD
CN301 3P
CTL (X)
N.C.
CTL (Y)
Q301 Q303
SWITCH INVERTER
SHIELD CASE
AUDIO HEAD
AUDIO ERASE HEAD
FULL ERASE HEAD
CN201 4P
A HEAD (X)
A HEAD (Y)
A HEAD (G)
A ERASE HEAD
CN202 3P
FULL ERASE (X)
N.C.
FULL ERASE (Y)
RV201 220k REC BIAS
Q203 BIAS ERASE OSC
Q202 SWITCH
Q201 FULL ERASE OSC
SLV-585HF/589HF
SLV-686HF
IC201 BA7767AS
X301 4.0MHz
L301 22μH


4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
CA-47 BOARD
no mark : REC/PB mode
( ) : RECmode
< > : PB mode
IC301
TA8823N
CTL AMP
IC302
LC6543H-4374
INDEX CONTROL
IC302 LC6543H-4374
REC P OD
VCC
S OUT1
S IN1
S CLK
VD CTL
V1 REC (CTL)
HC-CONT1
HC-CONT2
HC-CONT3
VD CTL
NT/PAL
CS INDEX
REC P
OSC 2
REC P
N.C.
INDEX
WRITING
VISS
VASS
SEARCH
(FP)
HC-CTL
INDWR
RESET
GND
TEST
OSC 1
L301 22μH
D351 1SS119TG
D352 1SS119TG
D303 1SS119TG
D304 1SS119TG
D306 1SS119TG
R308 1k
R309 10k
R310 10k
R311 4.7k
R313 22k
R314 47k
R356 10k
C313 47 10V
C314 0.047 F
L302 10μH
C315 1000p
R318 4.7k
R320 1k
BZ301
R317 470
X301 4.0MHz
C317 4.7 50V
R357 820k
R301 68k
R302 100k
JW301
C305 47 10V
C307 0.001 X
R305 33k
R306 330
R307 4.7k
C308 0.0047 X
C304 22 16V
C303 0.068 X
C301 0.047 F
C302 47 10V
R303 100k
C309 0.1 X
C310 2.2 50V
JW302
Q301 2SC3311A-RTA
Q303 2SC3311A-RTA
R315 47k
R316 22k
Q301 Q303
SWITCH INVERTER
CN301 3P
CTL (X)
N.C.
CTL (Y)
CN302 11P
V REC
RECCTL
STEP
INDEX OS
SCLK 2
PB CTL
SO 2
SI 2
VD CTL
INS
COSMO RESET
M1 M2 M3 M4
TO
MA-82 BOARD
CN018
(See Page 18)
CN303 4P
UN SW 5.8V
VC PWN
GND (SW)
SW 5V
TO
MA-82 BOARD
CN017
(See Page 18)
SHIELD CASE
R233 10k
C207 0.0047
T202
C208 0.0015 B
RV201 220k
REC BIAS
R206
Q203 1387TP-4
C209 0.01 X:PET
SLV-585HF
SLV-589HF
10K
SLV-686HF
22K
Q203
BIAS ERASE
OSC
R205 3.3 1/4W
Q202 2SB734
R204 10k
R203 22k
C205 47 10V
L201 270μH
C201 0.068
T201
C204 0.0015
Q201 2SD774
R201 10k
C203 0.01
C202 0.027
R202 3.3 1/4W
SLV-585HF/589HF
JW201
JW204
Q202 Q201
SWITCH FULL ERASE OSC
SLV-686HF
R207 10
CN201 4P
A HEAD (X)
A HEAD (Y)
A HEAD (G)
A ERASE HEAD
CN202 3P
FULL ERASE (X)
N.C.
FULL ERASE (Y)
C227 47 16V
C231 220p
L204 22μH
C228 47 10V
C229 33 16V
R229 22k
L203
C226 1 50V
R228 10k
C225 1 50V
C224 0.0047
R226 1200
R224 100
L202 33mH
C222 0.047
R223 22k
R221 10k
R222 10k
C221 2.2 50V
R231 2200
IC201
BA7767AS
CTL REC/PB
AMP
IC201 BA7767AS
REC CTRL
MUTE
ALC
20dB
35.56dB
C213 3900p
C212 2.2 50V
R210 560k
R212 15k
R211 12k
R209 220
C214 0.0068
C215 10 50V
C211 0.001
R208 22k
R213 33k
R214 1800
C216 50V
R215 1.8k
C217 0.001
C218 47 10V
C219 50V
R216 1M
R217 33k
R219 56k
R230 3900
CN203 10P
LINE IN
GND (AU)
LINE OUT
LP
SP
NA PB
NARECP
FULL ERS
SW 9V
AMUTE
TO
MA-82 BOARD
CN014
(See Page 19)
09

CA-47 (CTL/AUDIO HEAD AMP) PRINTED WIRING BOARD

— Ref. No. CA-47 BOARD: 4000 series —

CA-47 BOARD


A
B
C
D
1
2
3
4
5
6
SLV-686HF
SLV-585HF/589HF
RV201
R233
C207
T202
JW218
C205
R204
C201
T201
C202
C203
R201
C204
Q201
JW204
W4
JW207
JW206
JW205
JW201
BZ301
C227
JW213
C209
R206
Q208
Q203
R203
Q202
R205
L201
R202
CN201
CN202
C304
R303
R357
C303
JW301
C310
R306
C309
CN301
C317
W1
C307
R305
C308
R307
C305
R302
IC301
C301
C302
R301
JW315
W4
L203
JW217
C213
C211
R208
L204
C229
C228
C212
R209
C214
C231
C226
R207
R320
R313
R311
R308
Q301
R309
JW310
JW307
JW308
JW309
JW311
L302
JW305
L202
R229
R228
C225
IC201
R210
R211
R212
R213
R214
R215
D306
R310
L301
D304
C314
C313
JW306
JW215
R224
C222
R226
R223
R221
C221
C224
R222
JW216
C215
C216
C217
R216
C218
C219
R230
R217
JW212
R219
CN203
R314
R316
R315
Q303
D303
C315
JW312
IC302
JW317
CN302
JW304
JW313
JW314
X301
R318
R317
D352
JW303
CN303
JW210
JW211
JW302
W2
W1
D351
R356
1-640-540-
31

09

CA-47 BOARD

CN201 B-4
CN202 B-4
CN203 D-3
CN301 A-6
CN302 D-6
CN303 C-5
CN304 C-5
CN305 C-6
CN306 C-4
CN351 D-6
CN352 D-6
CN353 C-5

IC201 C-2
IC301 B-6
IC302 C-5

Q201 B-3
Q202 B-2
Q203 B-2
Q301 C-5
Q303 C-5
Q304 D-4

RV201 A-2

〈 DIODE 〉

D303	8-719-911-19	DIODE	1SS119
D304	8-719-911-19	DIODE	1SS119
D306	8-719-911-19	DIODE	1SS119
D351	8-719-911-19	DIODE	1SS119
D352	8-719-911-19	DIODE	1SS119

〈 IC 〉

IC201	8-759-513-18	IC	BA7767AS
IC301	8-759-246-14	IC	TA8823N
IC302	8-759-822-65	IC	LC6543H-4374

〈 TRANSISTOR 〉

Q201	8-729-140-96	TRANSISTOR	2SD774-34 (686HF)
Q202	8-729-140-93	TRANSISTOR	2SB734-34 (686HF)
Q203	8-729-140-96	TRANSISTOR	2SD774-34
Q301	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q303	8-729-119-78	TRANSISTOR	2SC2785-HFE

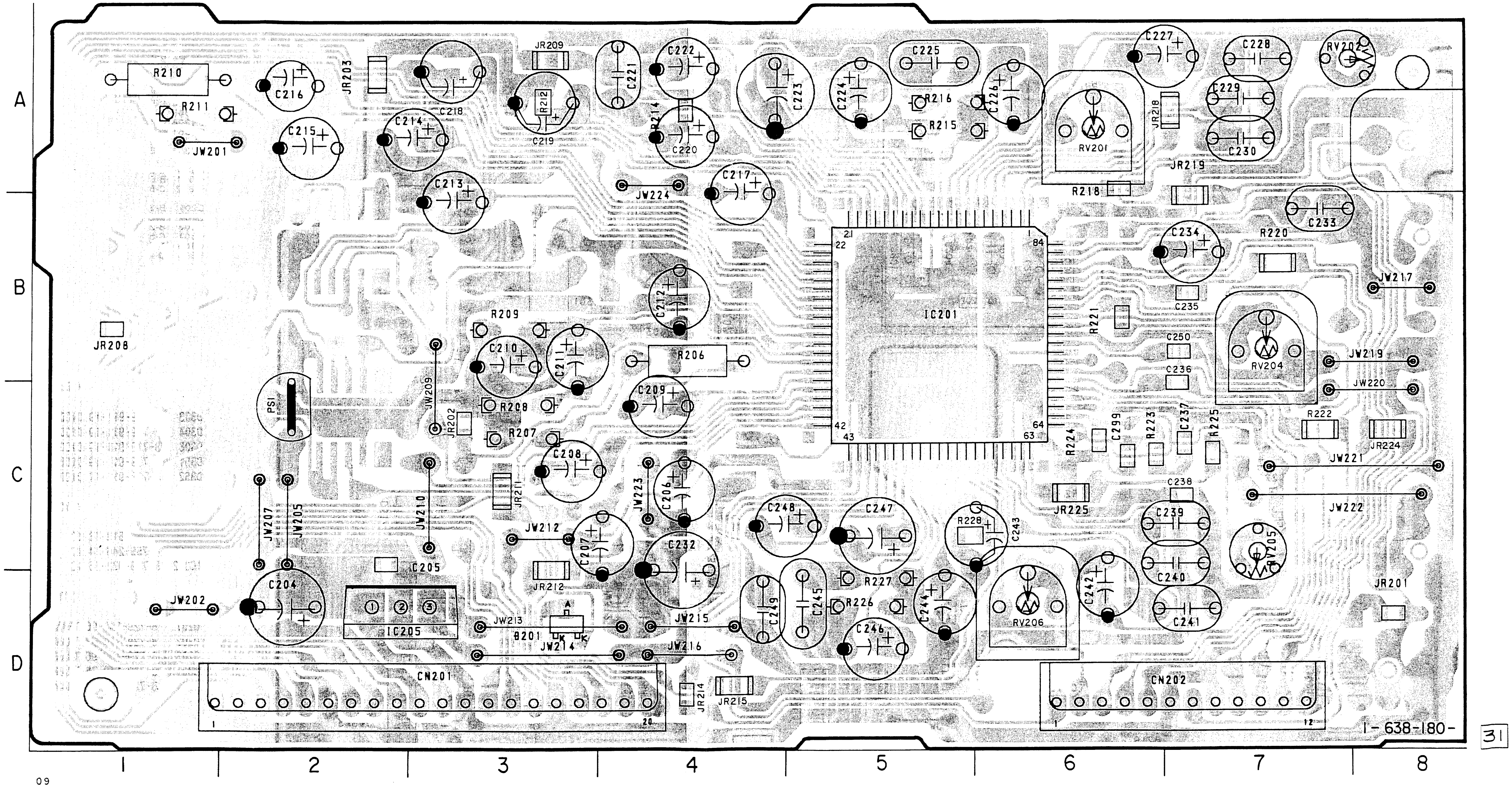
HF-23 (AUDIO PROCESS) PRINTED WIRING BOARD

— Ref. No. HF-23 BOARD: 5000 series —

HF-23 BOARD

HF-23 BOARD

CN201	C-2
CN202	C-4
D201	C-2
IC201	B-4
IC205	C-2
RV201	A-4
RV202	A-5
RV204	B-5
RV205	C-5
RV206	C-4



A
B
C
D
1
2
3
4
5
6
7
8
09
R210
R211
JW201
C216
C215
JR203
C218
C214
C213
JR209
R212
C219
C221
C222
C220
R214
JW224
C217
C223
C224
C225
R216
R215
C226
C227
RV201
JR218
C228
C229
C230
JR219
R218
RV202
C233
C234
R220
JW217
C235
IC201
R221
C250
C236
RV204
JW219
JW220
R222
JR224
JW221
JW222
JR208
R209
C212
R206
C210
C211
C209
JW209
R202
R208
R207
PS1
C208
JR211
JW223
C206
JW207
JW205
JW210
C204
C205
JW202
IC205
JW212
C207
JR212
C232
JW213
D201
JW214
JW215
JW216
CN201
JR214
JR215
C248
C249
C245
C247
R227
R226
C246
C244
R228
C243
RV206
C242
JR225
C238
C239
C240
C241
R224
C299
R223
C237
R225
RV205
JR201
CN202
1
20
1
12
21
22
1
84
42
43
64
63
1-638-180-
31

< DIODE >

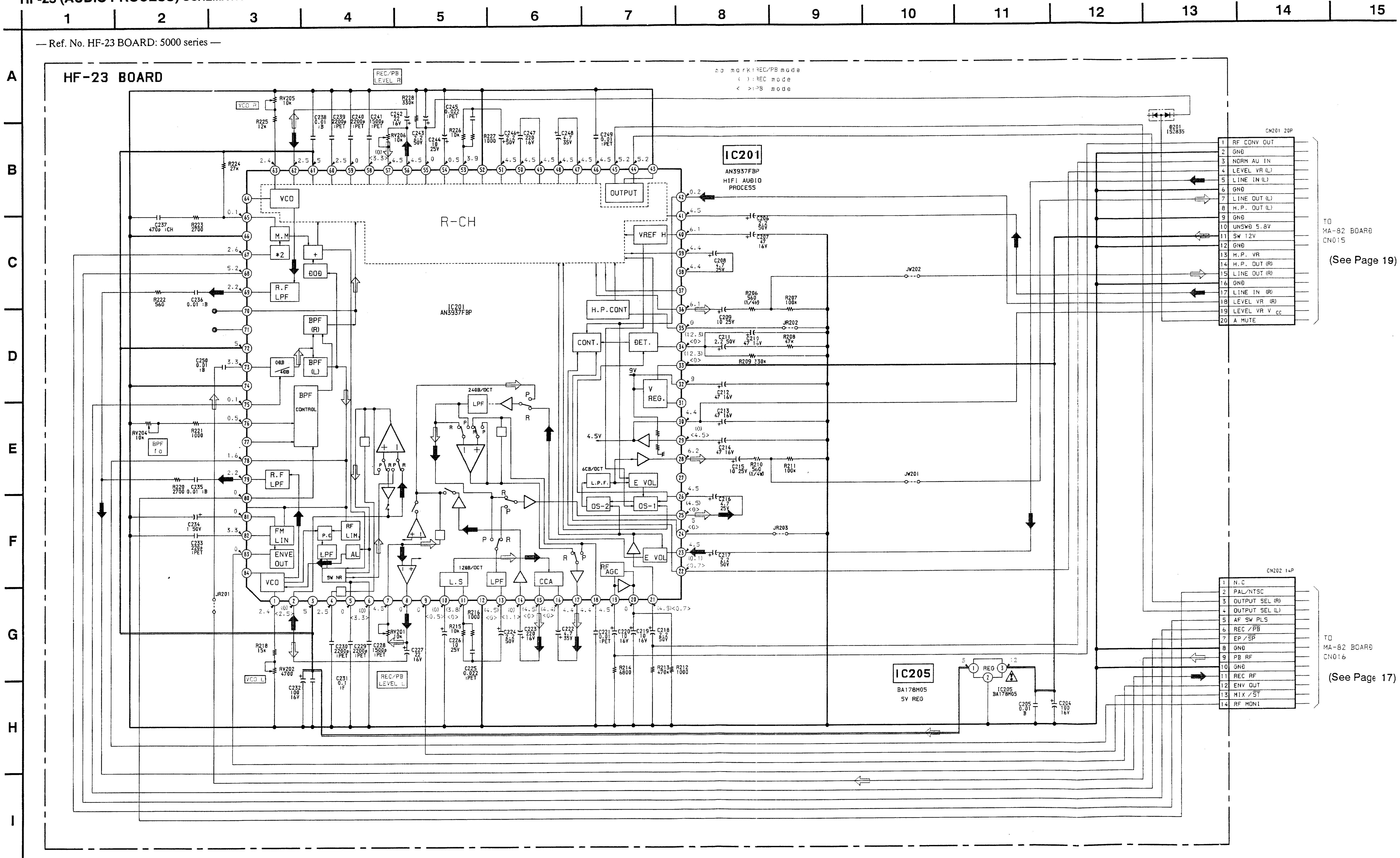
D201	8-719-104-34	DIODE	1S2836

< IC >

IC201	8-759-421-08	IC	AN3937FBP
⚠IC205	8-759-938-15	IC	BA178M05

HF-23 (AUDIO PROCESS) SCHEMATIC DIAGRAM

— Ref. No. HF-23 BOARD: 5000 series —


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
I
J
HF-23 BOARD
no mark:REC/PB mode
( ):REC mode
< >:PB mode
IC201
AN3937FBP
HIFI AUDIO PROCESS
R-CH
VCO
OUTPUT
VREF H
M.M
*2
+
DOD
R.F LPF
BPF (R)
BPF (L)
BPF CONTROL
DOB
H.P.CONT
CONT.
DET.
V REG.
E VOL
L.P.F.
OS-2
OS-1
R.F LPF
FM LIN
ENVE OUT
P.C
RF LIM
LPF
AL
SW NR
L.S
LPF
CCA
RF AGC
24dB/OCT
12dB/OCT
6dB/OCT
LPF
REC/PB LEVEL R
REC/PB LEVEL L
VCO R
VCO L
BPF f0
RV205 10k
RV204 10k
RV201 10k
RV202 4700
JW202
JW201
JR202
JR203
JR201
D201 1SS355
IC205
BA178M05
5V REG
REG
CN201 20P
1 RF CONV OUT
2 GND
3 NORM AU IN
4 LEVEL VR (L)
5 LINE IN (L)
6 GND
7 LINE OUT (L)
8 H.P. OUT (L)
9 GND
10 UNSWD 5.8V
11 SW 12V
12 GND
13 H.P. VR
14 H.P. OUT (R)
15 LINE OUT (R)
16 GND
17 LINE IN (R)
18 LEVEL VR (R)
19 LEVEL VR V CC
20 A MUTE
TO MA-82 BOARD CN015
(See Page 19)
CN202 14P
1 N.C
2 PAL/NTSC
3 OUTPUT SEL (R)
4 OUTPUT SEL (L)
5 AF SW PLS
6 REC /PB
7 EP /SP
8 GND
9 PB RF
10 GND
11 REC RF
12 ENV OUT
13 MIX /ST
14 RF MONI
TO MA-82 BOARD CN016
(See Page 17)

- **SIGNAL PATH**

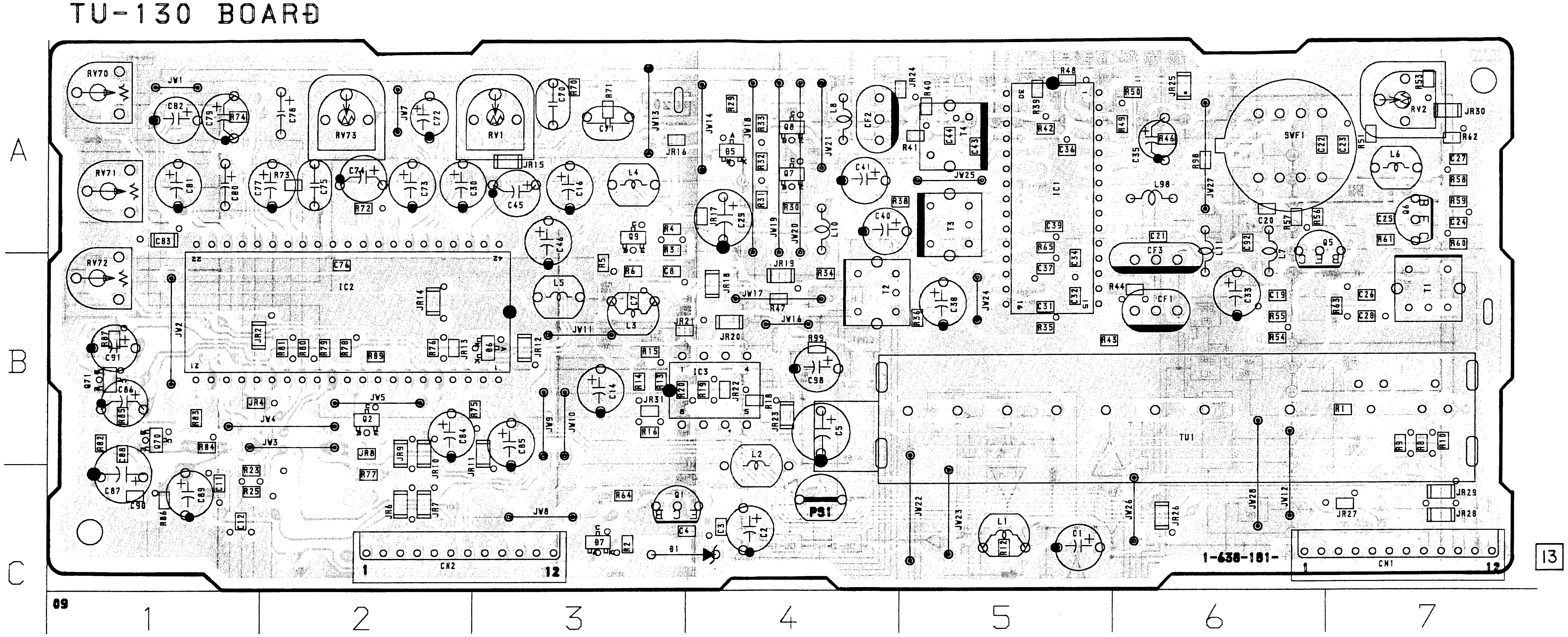
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				➡
PB				⇨

TU-130 (TUNER) PRINTED WIRING BOARD

— Ref. No. TU-130 BOARD: 5000 series —

TU-130 BOARD

CN001	C-7
CN002	C-2
D001	C-3
D005	A-4
D006	B-3
D007	C-3
IC001	A-5
IC002	B-2
IC003	B-4
Q001	C-3
Q002	B-2
Q003	C-2
Q004	C-2
Q005	B-7
Q006	A-7
Q007	A-4
Q008	A-4
Q009	A-3
Q070	B-1
Q071	B-1
RV001	A-3
RV002	A-7
RV070	A-1
RV071	A-1
RV072	B-1
RV073	A-2


TU-130 BOARD
A
B
C
1
2
3
4
5
6
7
09
RV70
RV71
RV72
RV73
RV1
RV2
IC1
IC2
IC3
TU1
SWF1
CF1
CF2
CF3
T1
T2
T3
T4
PS1
CN1
CN2
1
12
1-638-181-
13

(DIODE)

⚠D001	8-719-110-78	DIODE	RD33ES-B2
D005	8-719-104-34	DIODE	1S2836
D006	8-719-104-34	DIODE	1S2836
D007	8-719-800-76	DIODE	1SS226

(IC)

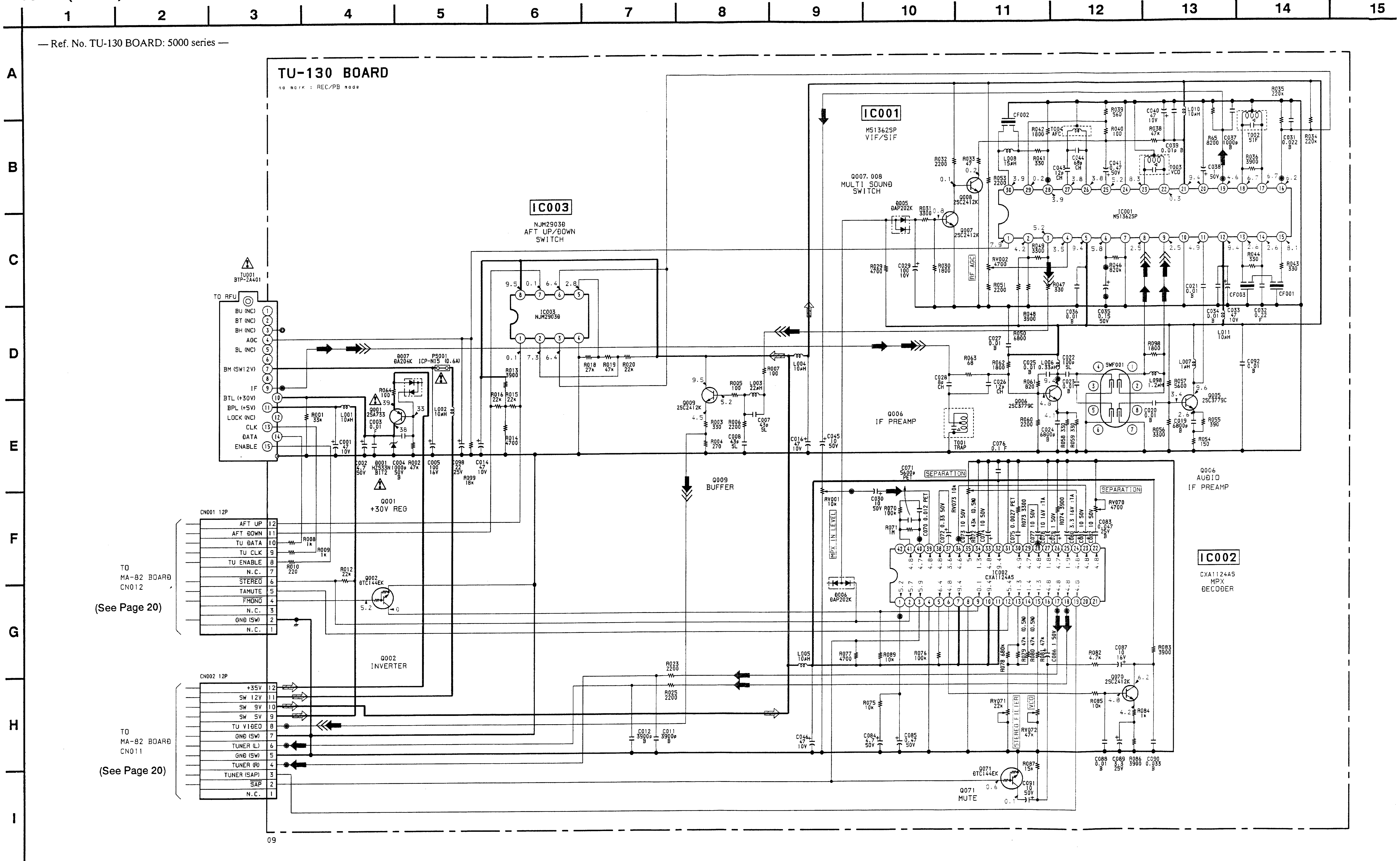
IC001	8-759-630-93	IC	M51362SP
IC002	8-752-035-71	IC	CXA1124AS
IC003	8-759-981-64	IC	LM2903DQ

(TRANSISTOR)

Q001	8-729-173-38	TRANSISTOR	2SA733-K
Q002	8-729-901-01	TRANSISTOR	DTC144EK
Q005	8-729-822-90	TRANSISTOR	2SC3779C
Q006	8-729-822-90	TRANSISTOR	2SC3779C
Q007	8-729-920-74	TRANSISTOR	2SC2412K-QR
Q008	8-729-920-74	TRANSISTOR	2SC2412K-QR
Q009	8-729-920-74	TRANSISTOR	2SC2412K-QR
Q070	8-729-920-74	TRANSISTOR	2SC2412K-QR
Q071	8-729-901-01	TRANSISTOR	DTC144EK

TU-130 (TUNER) SCHEMATIC DIAGRAM

— Ref. No. TU-130 BOARD: 5000 series —


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
I
J
TU-130 BOARD
no mark : REC/PB mode
IC001
M51362SP
VIF/SIF
IC002
CXA1124AS
MPX
DECODER
IC003
NJM2903D
AFT UP/DOWN
SWITCH
TU001
BTP-2A401
TO RFU
BU (NC)
BT (NC)
BH (NC)
AGC
BL (NC)
BM (SW12V)
IF
BTL (+30V)
BPL (+5V)
LOCK (NC)
CLK
DATA
ENABLE
Q001
+30V REG
Q002
INVERTER
Q006
IF PREAMP
Q006
AUDIO
IF PREAMP
Q007, 008
MULTI SOUND
SWITCH
Q009
BUFFER
Q071
MUTE
SWF001
T001
TRAP
T002
SIF
T003
VCO
RF AGC
MPX IN LEVEL
SEPARATION
STEREO FILTER
VCO
CN001 12P
AFT UP
AFT DOWN
TU DATA
TU CLK
TU ENABLE
N.C.
STEREO
TAMUTE
FMONO
N.C.
GND (SW)
N.C.
TO
MA-82 BOARD
CN012
(See Page 20)
CN002 12P
+35V
SW 12V
SW 9V
SW 5V
TU VIDEO
GND (SW)
TUNER (L)
GND (SW)
TUNER (R)
TUNER (SAP)
SAP
N.C.
TO
MA-82 BOARD
CN011
(See Page 20)
PS001
ICP-N15 (0.6A)
09

• **SIGNAL PATH**

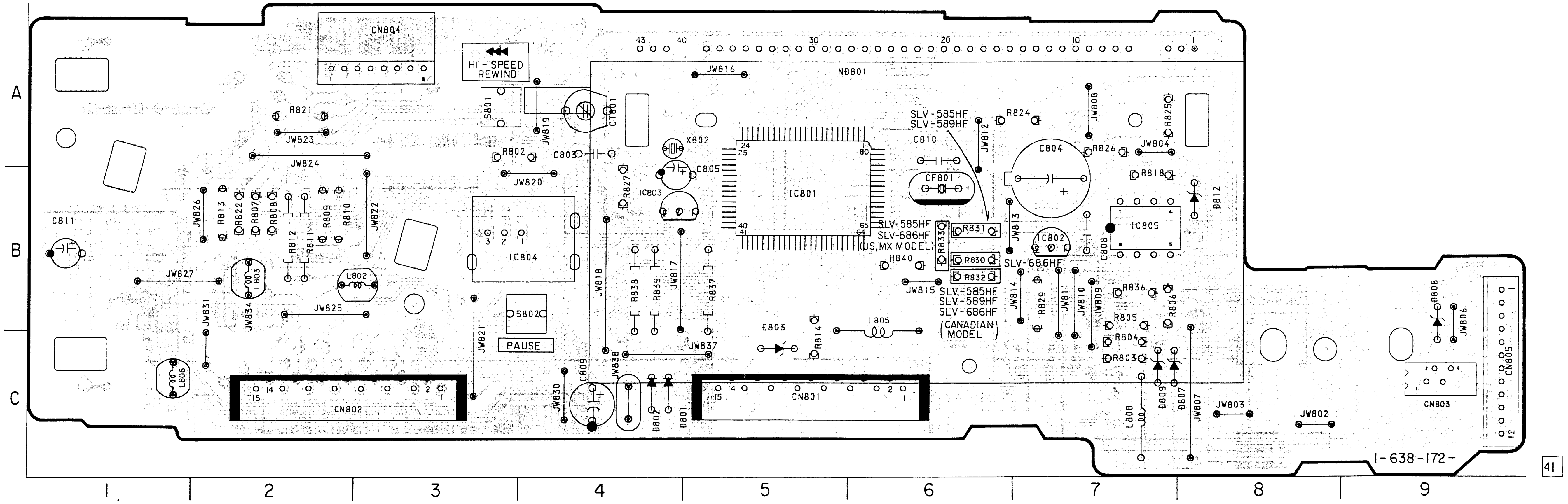
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC			➡≫	➡
PB				

MF-122 (TIMER/MODE CONTROL) PRINTED WIRING BOARD

— Ref. No. MF-122 BOARD: 5000 series —

MF-122 BOARD

MF-122 BOARD	
CN801	C-5
CN802	C-2
CN803	C-9
CN804	A-3
CN805	C-9
CT801	A-4
D801	C-4
D802	C-4
D803	C-5
D805	A-3
D806	A-4
D807	B-7
D808	B-9
D809	B-7
D810	B-6
D811	B-6
IC801	B-5
IC802	B-7
IC803	B-4
IC804	B-3
IC805	B-7



A
B
C
1
2
3
4
5
6
7
8
9
CN804
HI - SPEED REWIND
PAUSE
S801
S802
CT801
X802
IC801
IC802
IC803
IC804
IC805
CF801
C803
C804
C805
C808
C809
C810
C811
CN801
CN802
CN803
CN805
ND801
L802
L803
L805
L806
L808
D801
D802
D803
D807
D808
D809
D812
R802
R803
R804
R805
R806
R807
R808
R809
R810
R811
R812
R813
R814
R818
R821
R822
R824
R825
R826
R827
R829
R830
R831
R832
R833
R836
R837
R838
R839
R840
JW802
JW803
JW804
JW806
JW807
JW808
JW809
JW810
JW811
JW812
JW813
JW814
JW815
JW816
JW817
JW818
JW819
JW820
JW821
JW822
JW823
JW824
JW825
JW826
JW827
JW830
JW831
JW834
JW837
JW838
SLV-585HF
SLV-589HF
SLV-686HF
(US,MX MODEL)
(CANADIAN MODEL)
1-638-172-
41

09

(DIODE)

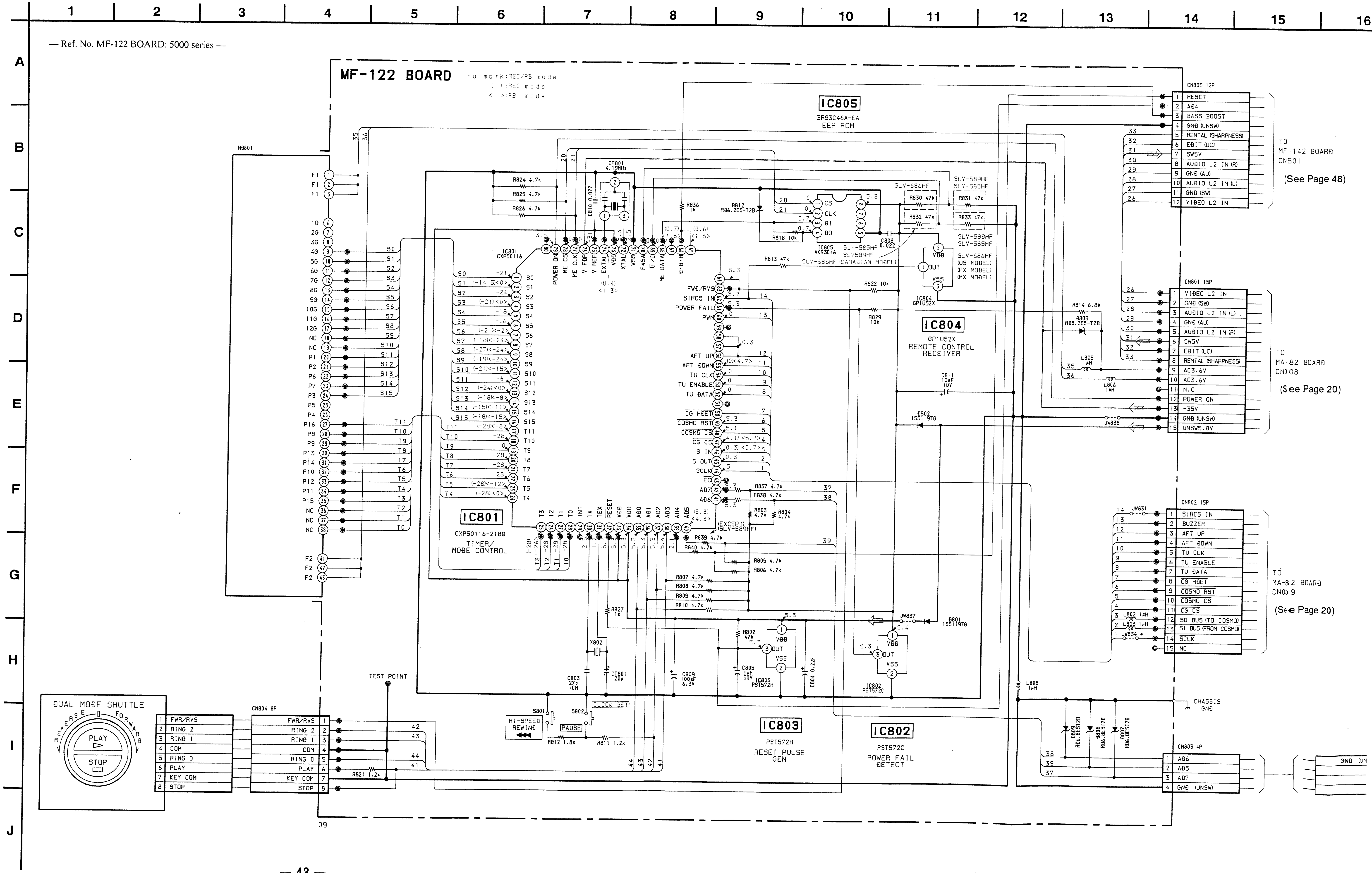
D801	8-719-200-82	DIODE	11ES2
D802	8-719-200-82	DIODE	11ES2
D803	8-719-110-08	DIODE	RD8.2ES-B2
D807	8-719-109-97	DIODE	RD6.8ES-B2
D808	8-719-109-97	DIODE	RD6.8ES-B2
D809	8-719-109-97	DIODE	RD6.8ES-B2
D812	8-719-109-93	DIODE	RD6.2ES-B2

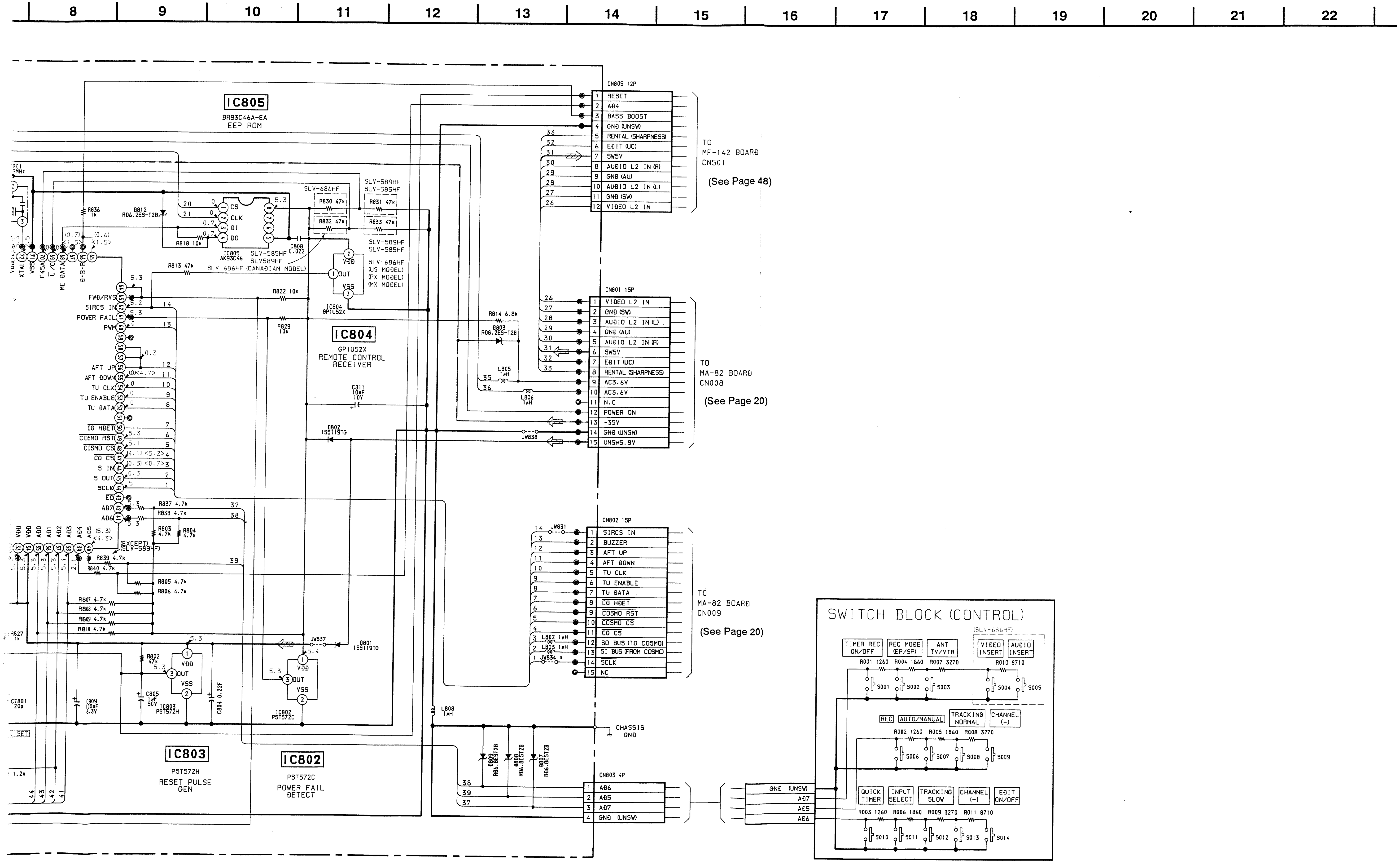
(IC)

IC801	8-752-818-76	IC	CXP50116-218Q
IC802	8-759-510-43	IC	PST572C
IC803	8-759-515-58	IC	PST572H
IC804	1-466-131-21	IC	GP1U52X
IC805	8-759-996-58	IC	AK93C46

MF-122 (TIMER/MODE CONTROL) SCHEMATIC DIAGRAM

— Ref. No. MF-122 BOARD: 5000 series —


MF-122 BOARD
no mark:REC/PB mode
( ):REC mode
< >:PB mode
IC805
BR93C46A-EA
EEP ROM
IC801
CXP50116-218Q
TIMER/
MODE CONTROL
IC804
GP1U52X
REMOTE CONTROL
RECEIVER
IC803
PST572H
RESET PULSE
GEN
IC802
PST572C
POWER FAIL
DETECT
ND801
CF801
4.19MHz
X802
CN805 12P
RESET
AD4
BASS BOOST
GND (UNSW)
RENTAL (SHARPNESS)
EDIT (UC)
SWSV
AUDIO L2 IN (R)
GND (AU)
AUDIO L2 IN (L)
GND (SW)
VIDEO L2 IN
TO
MF-142 BOARD
CN501
(See Page 48)
CN801 15P
VIDEO L2 IN
GND (SW)
AUDIO L2 IN (L)
GND (AU)
AUDIO L2 IN (R)
SWSV
EDIT (UC)
RENTAL (SHARPNESS)
AC3.6V
AC3.6V
N.C
POWER ON
-35V
GND (UNSW)
UNSW5.8V
TO
MA-82 BOARD
CN108
(See Page 20)
CN802 15P
SIRCS IN
BUZZER
AFT UP
AFT DOWN
TU CLK
TU ENABLE
TU DATA
CG HDET
COSMO RST
COSMO CS
CG CS
SO BUS (TO COSMO)
SI BUS (FROM COSMO)
SCLK
NC
TO
MA-32 BOARD
CN109
(See Page 20)
CN803 4P
AD6
AD5
AD7
GND (UNSW)
CHASSIS
GND
DUAL MODE SHUTTLE
REVERSE
FORWARD
PLAY
STOP
FWR/RVS
RING 2
RING 1
COM
RING 0
PLAY
KEY COM
STOP
CN804 8P
TEST POINT
HI-SPEED
REWIND
PAUSE
CLOCK SET
S801
S802
SLV-686HF
SLV-589HF
SLV-585HF
SLV-686HF (CANADIAN MODEL)
SLV-686HF
(US MODEL)
(PX MODEL)
(MX MODEL)
(EXCEPT)
(SLV-589HF)
POWER ON
ME CS
ME CLK
V FDP
V REF
EXTAL
VDD
XTAL
VSS
F45A
U/C
ME DATA
D.B.B
FWD/RVS
SIRCS IN
POWER FAIL
PWM
AFT UP
AFT DOWN
TU CLK
TU ENABLE
TU DATA
CG HDET
COSMO RST
COSMO CS
CG CS
S IN
S OUT
SCLK
EC
AD7
AD6
T3
T2
T1
T0
INT
TX
TEX
RESET
VDD
AD0
AD1
AD2
AD3
AD4
AD5
CS
CLK
DI
DO
VDD
OUT
VSS
JW831
JW834
JW837
JW838
D801
1SS119TG
D802
1SS119TG
D803
RD8.2ES-T2B
D807
RD6.8ESTB
D808
RD6.8ESTB
D809
RD6.8ESTB
D812
RD6.2ES-T2B
L802 1μH
L803 1μH
L805 1μH
L806 1μH
L808 1μH
R824 4.7k
R825 4.7k
R826 4.7k
R836 1k
R830 47k
R831 47k
R832 47k
R833 47k
R818 10k
R813 47k
R822 10k
R829 10k
R814 6.8k
R837 4.7k
R838 4.7k
R803 4.7k
R804 4.7k
R839 4.7k
R840 4.7k
R805 4.7k
R806 4.7k
R807 4.7k
R808 4.7k
R809 4.7k
R810 4.7k
R827 1k
R802 47k
R812 1.8k
R811 1.2k
R821 1.2k
C808 0.022
C810 0.022
C811 10μF 10V
C803 27p CH
CT801 20p
C809 100μF 6.3V
C805 1μF 50V
C804 0.22F
09

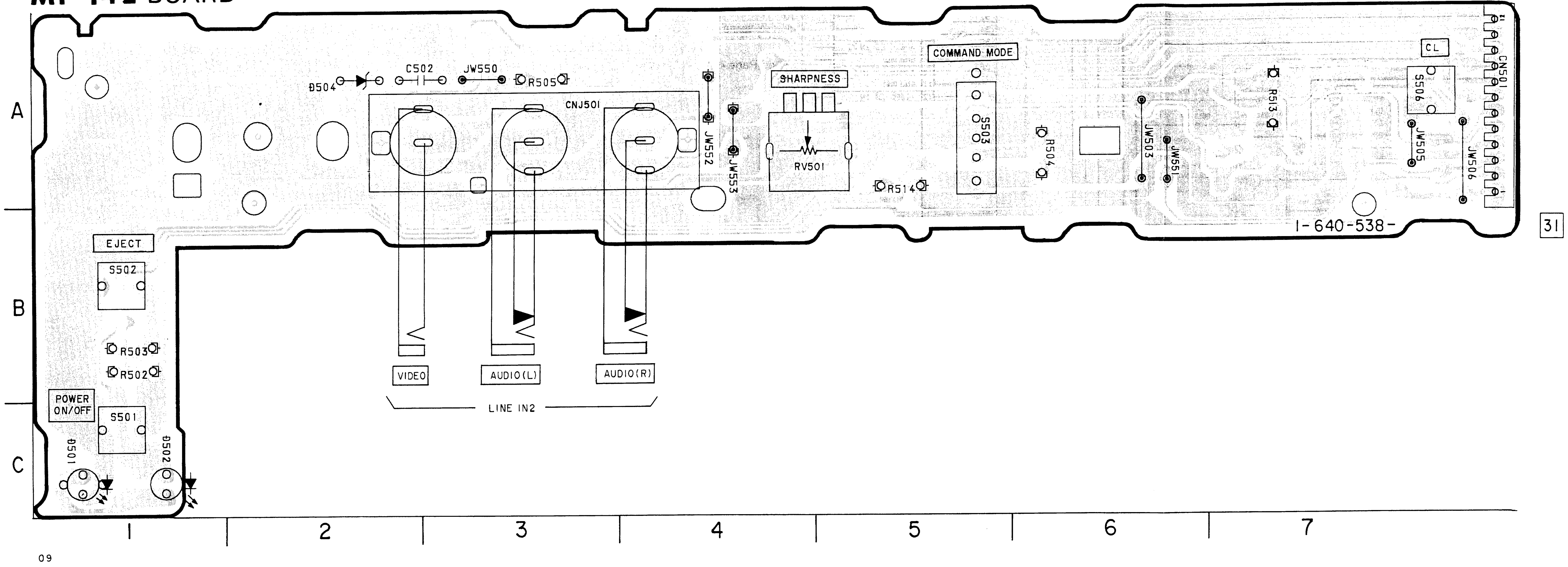

8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
IC805
BR93C46A-EA
EEP ROM
IC805 AK93C46 SLV-585HF SLV589HF
SLV-686HF (CANADIAN MODEL)
SLV-686HF
SLV-589HF
SLV-585HF
R830 47k
R831 47k
R832 47k
R833 47k
SLV-686HF (US MODEL) (PX MODEL) (MX MODEL)
IC804
GP1U52X
REMOTE CONTROL
RECEIVER
IC803
PST572H
RESET PULSE
GEN
IC802
PST572C
POWER FAIL
DETECT
FWD/RVS
SIRCS IN
POWER FAIL
PWM
AFT UP
AFT DOWN
TU CLK
TU ENABLE
TU DATA
CG HDET
COSMO RST
COSMO CS
CG CS
S IN
S OUT
SCLK
EC
AD7
AD6
(EXCEPT) SLV-589HF
CN805 12P
1 RESET
2 AD4
3 BASS BOOST
4 GND (UNSW)
5 RENTAL (SHARPNESS)
6 EDIT (UC)
7 SW5V
8 AUDIO L2 IN (R)
9 GND (AU)
10 AUDIO L2 IN (L)
11 GND (SW)
12 VIDEO L2 IN
TO MF-142 BOARD CN501
(See Page 48)
CN801 15P
1 VIDEO L2 IN
2 GND (SW)
3 AUDIO L2 IN (L)
4 GND (AU)
5 AUDIO L2 IN (R)
6 SW5V
7 EDIT (UC)
8 RENTAL (SHARPNESS)
9 AC3.6V
10 AC3.6V
11 N.C
12 POWER ON
13 -35V
14 GND (UNSW)
15 UNSW5.8V
TO MA-82 BOARD CN008
(See Page 20)
CN802 15P
1 SIRCS IN
2 BUZZER
3 AFT UP
4 AFT DOWN
5 TU CLK
6 TU ENABLE
7 TU DATA
8 CG HDET
9 COSMO RST
10 COSMO CS
11 CG CS
12 SO BUS (TO COSMO)
13 SI BUS (FROM COSMO)
14 SCLK
15 NC
TO MA-82 BOARD CN009
(See Page 20)
CHASSIS GND
CN803 4P
1 AD6
2 AD5
3 AD7
4 GND (UNSW)
GND (UNSW)
AD7
AD5
AD6
SWITCH BLOCK (CONTROL)
(SLV-686HF)
TIMER REC ON/OFF
REC MODE (EP/SP)
ANT TV/VTR
VIDEO INSERT
AUDIO INSERT
R001 1260 R004 1860 R007 3270
R010 8710
S001 S002 S003 S004 S005
REC
AUTO/MANUAL
TRACKING NORMAL
CHANNEL (+)
R002 1260 R005 1860 R008 3270
S006 S007 S008 S009
QUICK TIMER
INPUT SELECT
TRACKING SLOW
CHANNEL (-)
EDIT ON/OFF
R003 1260 R006 1860 R009 3270 R011 8710
S010 S011 S012 S013 S014
R814 6.8k
D803 RD8.2ES-T2B
L805 1µH
L806 1µH
C811 10µF 10V
D802 1SS119TG
JW838
JW837
D801 1SS119TG
R837 4.7k
R838 4.7k
R803 4.7k
R804 4.7k
R839 4.7k
R840 4.7k
R805 4.7k
R806 4.7k
R807 4.7k
R808 4.7k
R809 4.7k
R810 4.7k
R802 47k
C805 1µF 50V
C809 100µF 6.3V
C804 0.22F
R813 47k
R822 10k
R829 10k
R836 1k
D812 RD6.2ES-T2B
R818 10k
C808 0.022
L808 1µH
D809 RD6.8ESTB
D808 RD6.8ESTB
D807 RD6.8ESTB
L802 1µH
L803 1µH
JW834
JW831

MF-142 (VIDEO/AUDIO IN/OUT) PRINTED WIRING BOARD

— Ref. No. MF-142 BOARD: 5000 series —

MF-142 BOA
CN501 A-7
D501 C-1
D502 C-1
D504 A-2

MF-142 BOARD

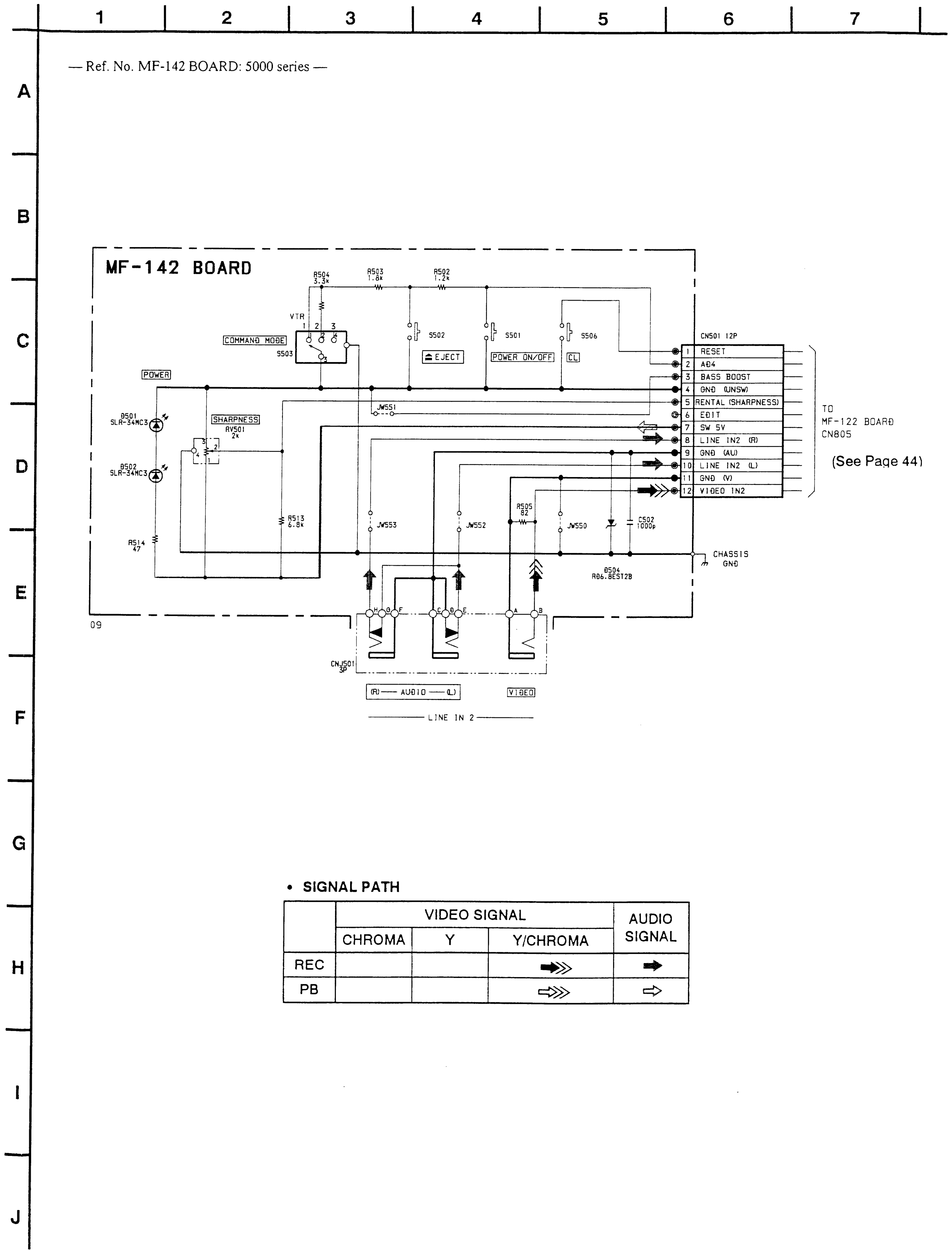

A
B
C
D504
C502
JW550
R505
CNJ501
JW552
JW553
SHARPNESS
RV501
R514
COMMAND MODE
S503
R504
JW503
JW551
R513
CL
S506
JW505
JW506
CN501
11
1
1-640-538-
31
EJECT
S502
R503
R502
POWER ON/OFF
S501
D501
D502
VIDEO
AUDIO(L)
AUDIO(R)
LINE IN2
1
2
3
4
5
6
7
09

〈 DIODE 〉

D501	8-719-940-82 LED	SLR34MC3
D502	8-719-940-82 LED	SLR34MC3
D504	8-719-109-97 DIODE	RD6. 8ES-B2

MF-142 (VIDEO/AUDIO IN/OUT) SCHEMATIC DIAGRAM

— Ref. No. MF-142 BOARD: 5000 series —


1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
MF-142 BOARD
R504
3.3k
R503
1.8k
R502
1.2k
VTR
1
2
3
COMMAND MODE
S503
S502
EJECT
S501
POWER ON/OFF
S506
CL
POWER
D501
SLR-34MC3
D502
SLR-34MC3
SHARPNESS
RV501
2k
JW551
R513
6.8k
R514
47
JW553
JW552
R505
82
JW550
C502
1000p
D504
RD6.8ESTZB
CN501 12P
1 RESET
2 AD4
3 BASS BOOST
4 GND (UNSW)
5 RENTAL (SHARPNESS)
6 EDIT
7 SW 5V
8 LINE IN2 (R)
9 GND (AU)
10 LINE IN2 (L)
11 GND (V)
12 VIDEO IN2
TO
MF-122 BOARD
CN805
(See Page 44)
CHASSIS
GND
H
G
F
C
D
E
A
B
CNJ501
3P
(R) — AUDIO — (L)
VIDEO
LINE IN 2
09

- SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC			➡≫	➡
PB			⇨≫	⇨

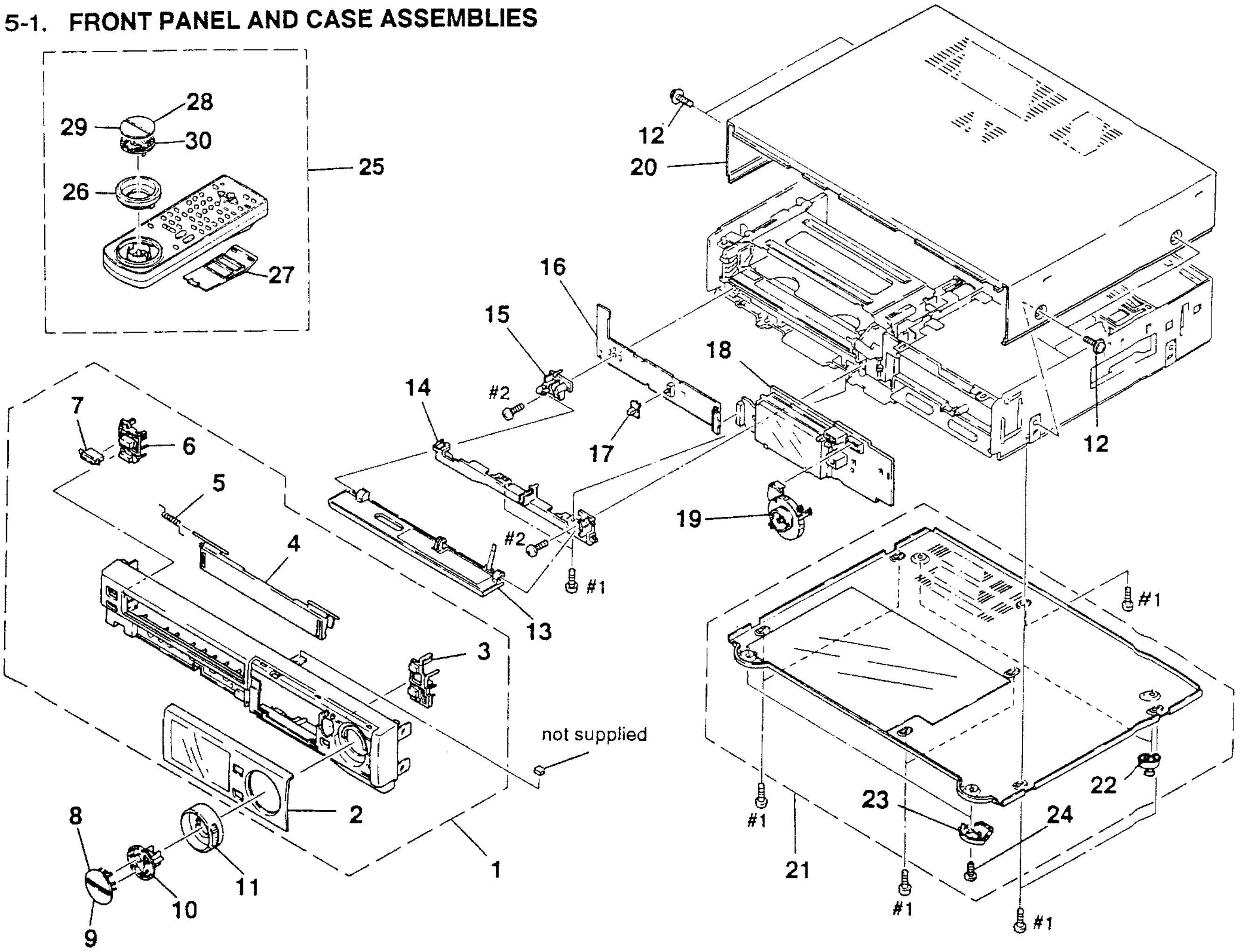
SECTION 5
EXPLODED VIEWS

NOTE:
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.
- Canadian model is abbreviated as CND, and also Mexican model is MX.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

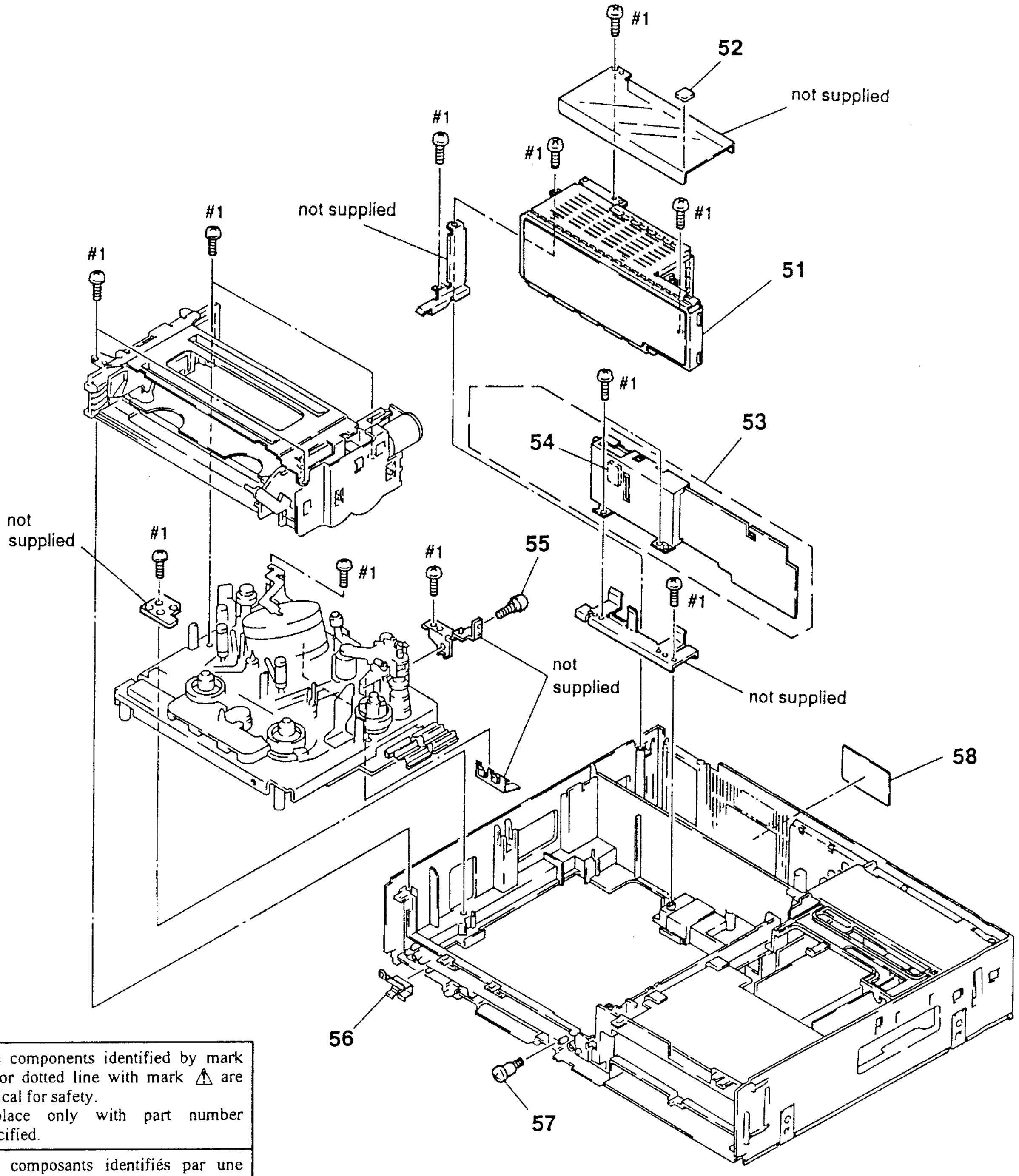
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

5-1. FRONT PANEL AND CASE ASSEMBLIES



Ref. No.	Part No.	Description	Remark
1	X-3940-321-1	PANEL ASSY, FRONT (686HF)	
1	X-3940-320-1	PANEL ASSY, FRONT (585HF/589HF)	
2	3-941-523-21	PLATE, TRANSPARENT (686HF)	
2	3-941-523-11	PLATE, TRANSPARENT (EXCEPT 686HF)	
3	3-941-521-01	BUTTON, PAUSE	
4	3-941-519-91	DOOR, CASSETTE	
5	3-941-520-01	SPRING, FL	
6	3-941-517-11	BUTTON, POWER-EJECT	
7	3-941-518-01	TIP, POWER BUTTON	
8	3-941-510-11	BUTTON, PLAYBACK	
9	3-941-511-11	BUTTON, STOP	
10	3-941-515-01	HOLDER, BUTTON	
11	3-941-512-01	RING, SHUTTLE	
12	3-710-901-11	SCREW, TAPPING	
13	1-466-497-31	SWITCH BLOCK, CONTROL (686HF)	
13	1-466-497-21	SWITCH BLOCK, CONTROL (585HF)	
13	1-466-497-51	SWITCH BLOCK, CONTROL (589HF)	
14	X-3940-667-1	ESCUTCHEON ASSY, FRAME	
15	3-941-537-01	PLATE (LEFT), FULCRUM, DOOR	
* 16	A-6756-253-A	MF-142 BOARD, COMPLETE (686HF)	
* 16	A-6756-248-A	MF-142 BOARD, COMPLETE (585HF/589HF)	
17	3-744-217-01	KNOB, SELECTION	
* 18	A-6721-391-A	MF-122 BOARD, COMPLETE (686HF;US, MX)	
* 18	A-6721-389-A	MF-122 BOARD, COMPLETE (585HF;US, PX)	
* 18	A-6721-390-A	MF-122 BOARD, COMPLETE (585HF;CND/589HF)	
* 18	A-6721-393-A	MF-122 BOARD, COMPLETE (686HF;CND)	
19	1-572-662-11	SWITCH, ROTARY (DUAL MODE SHUTTLE)	
20	3-741-985-01	CASE, UPPER	
21	X-3940-317-1	PLATE ASSY, BOTTOM	
22	3-670-155-11	LEG	
23	3-941-509-01	INSULATOR	
24	3-721-343-01	SCREW, FIXED, M4X7	
25	1-465-770-11	REMOTE COMMANDER (RMT-V102A)(686HF)	
25	1-465-770-21	REMOTE COMMANDER (RMT-V102)(585HF)	
25	1-465-862-11	REMOTE COMMANDER (RMT-V112)(589HF)	
26	3-941-616-01	RING, SHUTTLE	
27	3-943-535-01	COVER, BATTERY	
28	3-941-617-11	BUTTON PLAYBACK	
29	3-941-618-11	BUTTON STOP	
30	3-941-619-01	HOLDER, DIAL	

5-2. POWER SUPPLY BLOCK ASSEMBLY

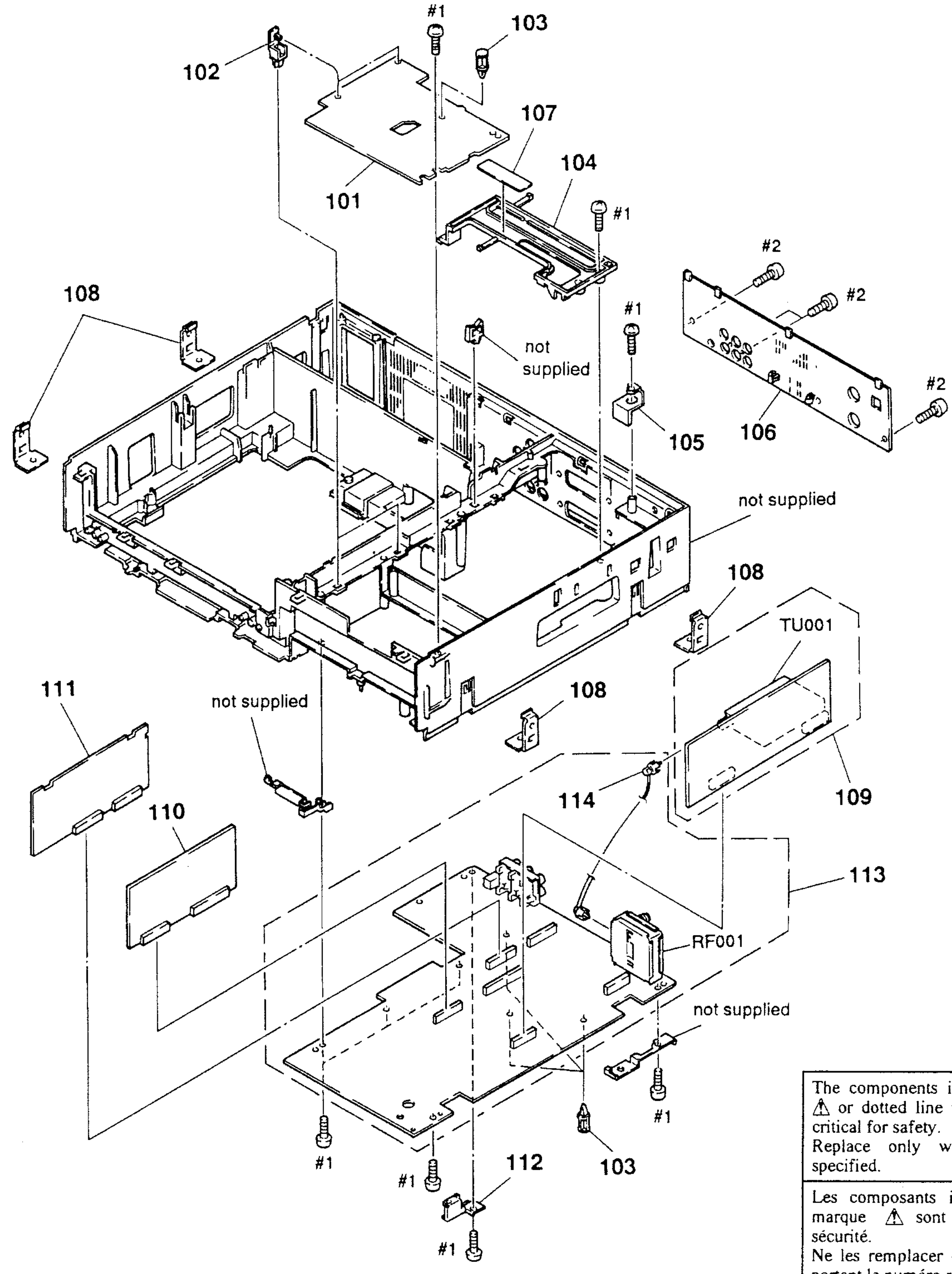


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
⚠51	1-413-650-11	POWER BLOCK (SWITCHING BLOCK) (EXCEPT 585HF;PX)	
⚠51	1-413-648-11	POWER BLOCK (SWITCHING BLOCK) (585HF;PX)	
52	9-911-839-XX	RETAINER (B), MICROPHONE	
* 53	A-6727-357-A	RP-128 BOARD, COMPLETE (585HF/589HF)	
* 53	A-6727-361-A	RP-128 BOARD, COMPLETE (686HF)	
* 54	1-639-699-12	DQ-6 BOARD	
55	3-736-055-01	SCREW (3X8), TAPPING	
56	3-741-968-01	PLATE, GROUND, MF	
57	3-741-948-01	SCREW (3), SPECIAL (+) TAPPING	
* 58	3-942-770-02	LABEL, MODEL NUMBER (C)(686HF;US, CND)	
* 58	3-942-769-01	LABEL, MODEL NUMBER(B) (585HF;US, CND)	
* 58	3-944-212-01	LABEL, MODEL NUMBER(PX) (585HF;PX)	
* 58	3-944-213-01	LABEL, MODEL NUMBER(MX) (686HF;MX)	
* 58	3-944-482-01	LABEL, MODEL NUMBER(D) (589HF)	

5-3. MAIN BOARDS ASSEMBLY


#1
103
102
107
104
101
#1
#2
108
#2
#1
not supplied
#2
105
106
not supplied
108
TU001
111
not supplied
108
114
109
110
113
RF001
not supplied
#1
#1
#1
112
103
#1

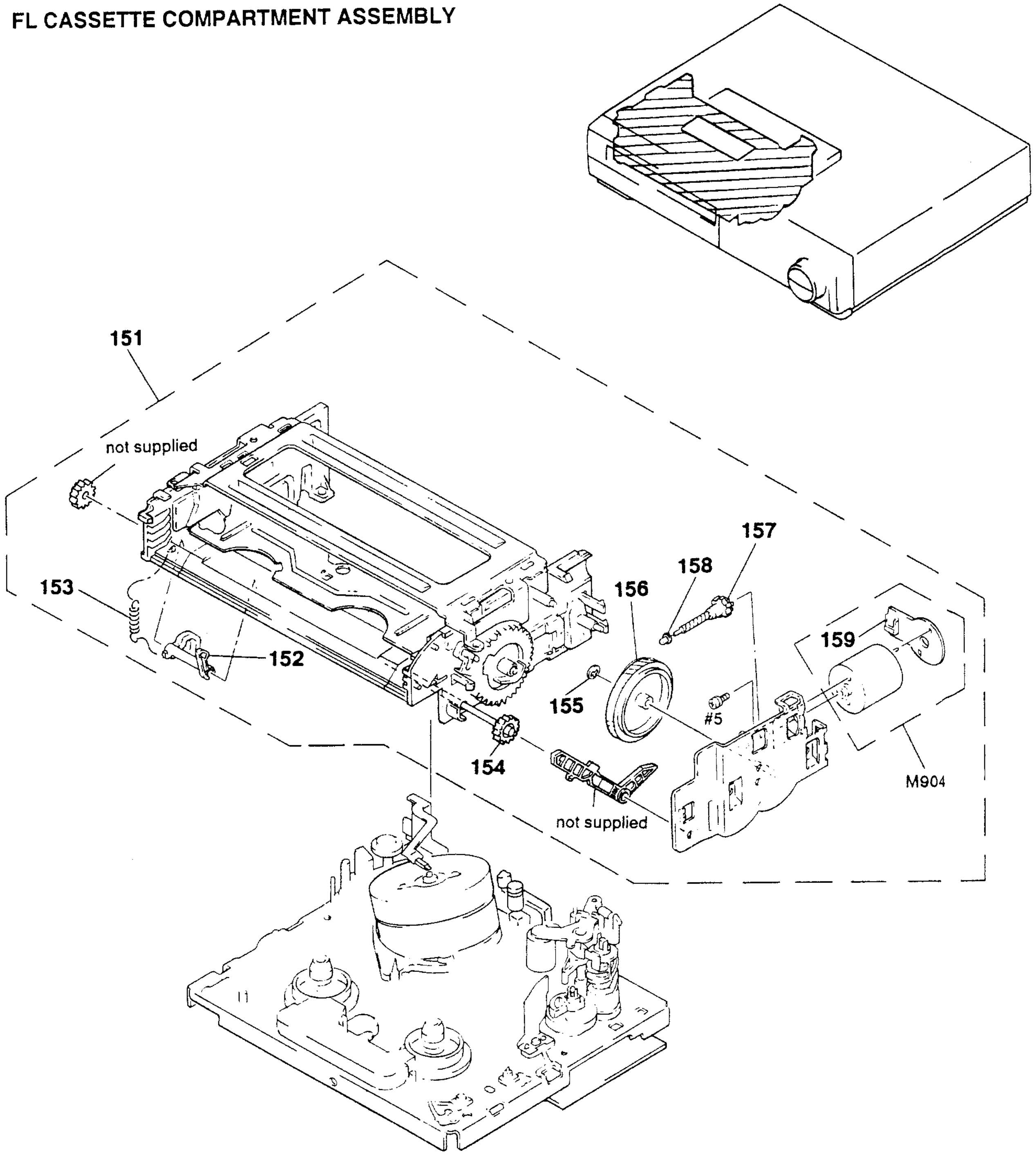
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
* 101	A-6754-360-A	CA-47 BOARD, COMPLETE (585HF/589HF)	
* 101	A-6754-361-A	CA-47 BOARD, COMPLETE (686HF)	
102	3-736-704-01	HINGE, PC BOARD	
103	3-682-057-11	SPACER (SMALL)	
* 104	3-941-524-01	HOLDER, FRAME	
* 105	3-741-963-01	BRACKET, RF	
106	3-941-514-11	PLATE, ORNAMENTAL, JACK	
107	3-942-876-02	LABEL, CAUTION (585HF:US, CND/686HF:US, CND)	
* 108	3-741-992-01	STOPPER, UPPER CASE	

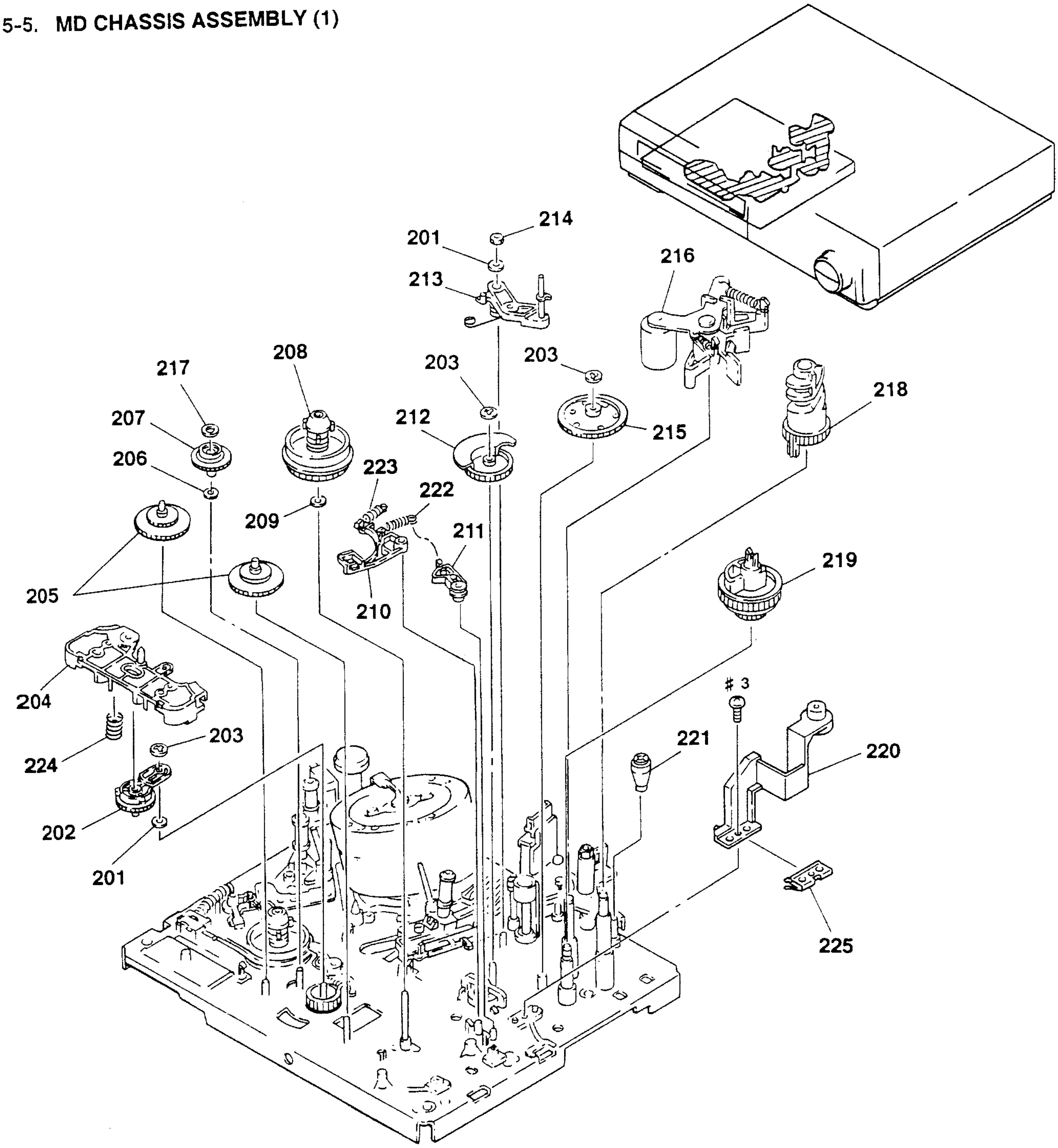
Ref. No.	Part No.	Description	Remark
* 109	A-6754-238-A	TU-130 BOARD, COMPLETE	
* 110	A-6754-400-B	HF-23 BOARD, COMPLETE	
111	A-6754-372-B	YC-112 BOARD, COMPLETE	
* 112	3-741-962-01	PLATE, GROUND, JMP	
* 113	A-6756-249-B	MA-82 BOARD, COMPLETE	
114	1-558-924-41	CABLE, PIN	
⚠RF001	1-466-150-11	MODULATOR, RF (RFU-1025)	
⚠TU001	1-465-239-11	TUNER, ET (BTP-2A401)	

5-4. FL CASSETTE COMPARTMENT ASSEMBLY


151
not supplied
153
152
154
155
156
158
157
159
#5
M904
not supplied

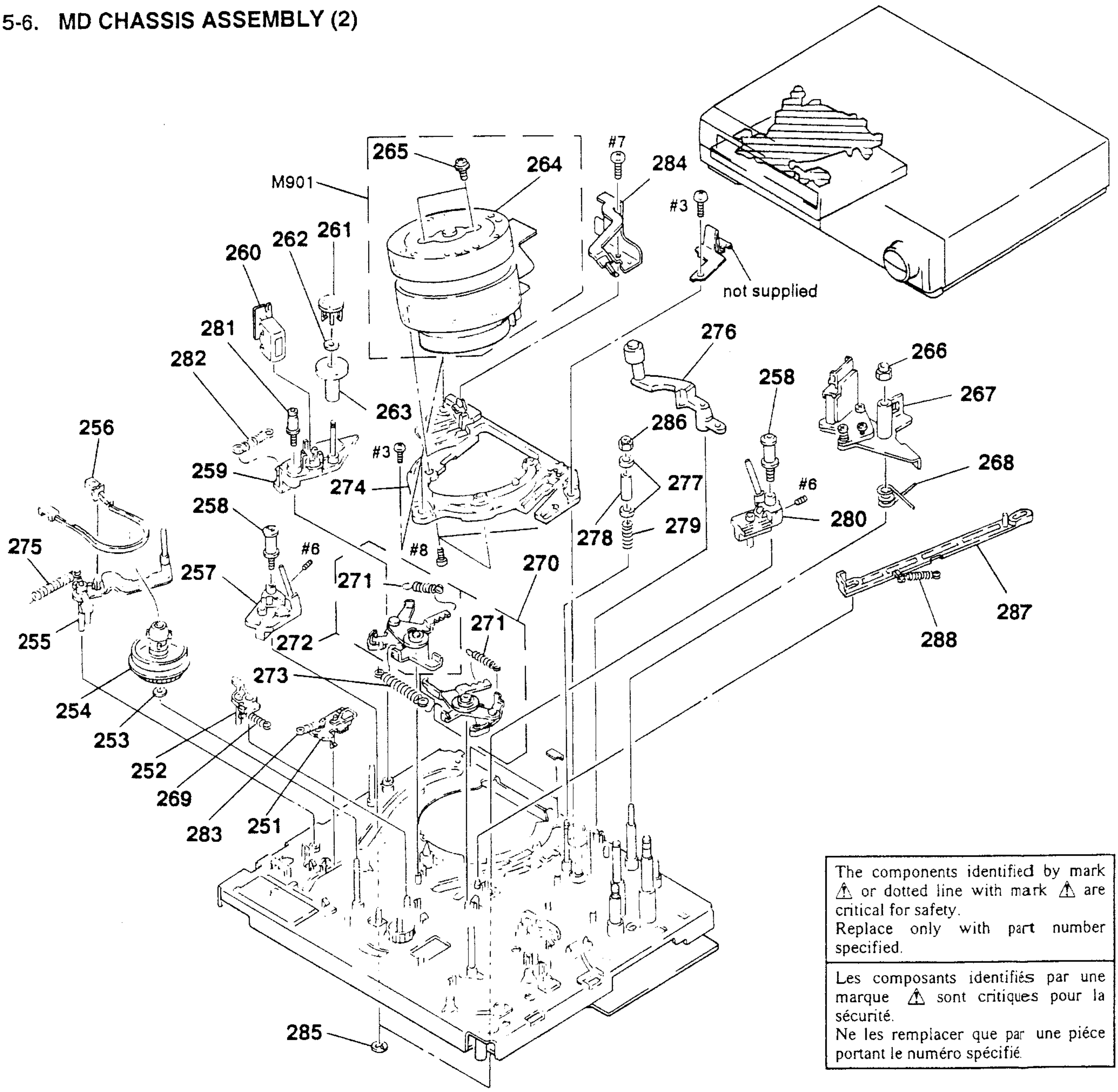
Ref. No.	Part No.	Description	Remark
151	A-6751-445-A	FL BLOCK ASSY (F45)	
152	3-736-163-01	LEVER, ERASING PROTECTION	
153	3-739-687-01	SPRING, TENSION	
154	X-3727-775-2	GEAR (RIGHT) ASSY, MIDWAY	
155	3-696-510-01	WASHER (3), STOPPER	
156	3-736-164-01	WHEEL (FL), WORM	
157	3-736-100-01	GEAR (FL), WORM	
158	3-716-144-02	RETAINER, WORM	
159	1-506-482-11	CONNECTOR 3P, MALE	
M904	X-3727-784-1	MOTOR ASSY (LOADING)	

5-5. MD CHASSIS ASSEMBLY (1)


214
201
216
213
208
217
203
203
218
207
212
215
206
223
222
209
211
219
205
210
# 3
204
203
221
220
224
202
201
225

Ref.No.	Part No.	Description	Remark
201	3-701-438-11	WASHER, 2.5	
202	X-3727-776-1	ARM ASSY, PENDULUM	
203	3-669-595-00	WASHER (2), STOPPER	
204	3-736-172-02	RELEASE, LOCK, REEL	
205	X-3727-795-1	GEAR ASSY, RELAY	
206	3-736-074-01	RETAINER (SMALL), THRUST	
207	3-736-037-01	GEAR, REW	
208	X-3727-798-1	TABLE ASSY, REEL	
209	3-738-212-21	RETAINER, THRUST, REEL TABLE	
210	X-3733-335-1	BRAKE ASSY (AT), T SOFT	
211	3-736-105-03	ARM, REV BRAKE	
212	3-736-143-01	GEAR, RVS CAM	
213	X-3729-911-1	ARM ASSY, RVS	
214	3-736-740-01	NUT (M2X0.25), NYLON	
215	3-736-116-01	GEAR, COMMUNICATION	
216	X-3727-770-1	PINCH ROLLER BLOCK ASSY	
217	3-736-069-01	RETAINER, SPRING	
218	3-736-136-01	CAM, ELEVATOR	
219	3-943-700-01	GEAR (LO), PRESS CAM	
220	3-942-828-01	OPENNER, LID	
221	3-738-250-01	SCREW, AC ADJUSTMENT	
222	3-736-025-01	SPRING (REV BRAKE), TENSION	
223	3-736-024-01	SPRING, TENSION	
224	3-736-020-11	SPRING, COMPRESSION	
225	3-942-829-01	SPRING (2) (ATOM), GROUND, FL	

5-6. MD CHASSIS ASSEMBLY (2)

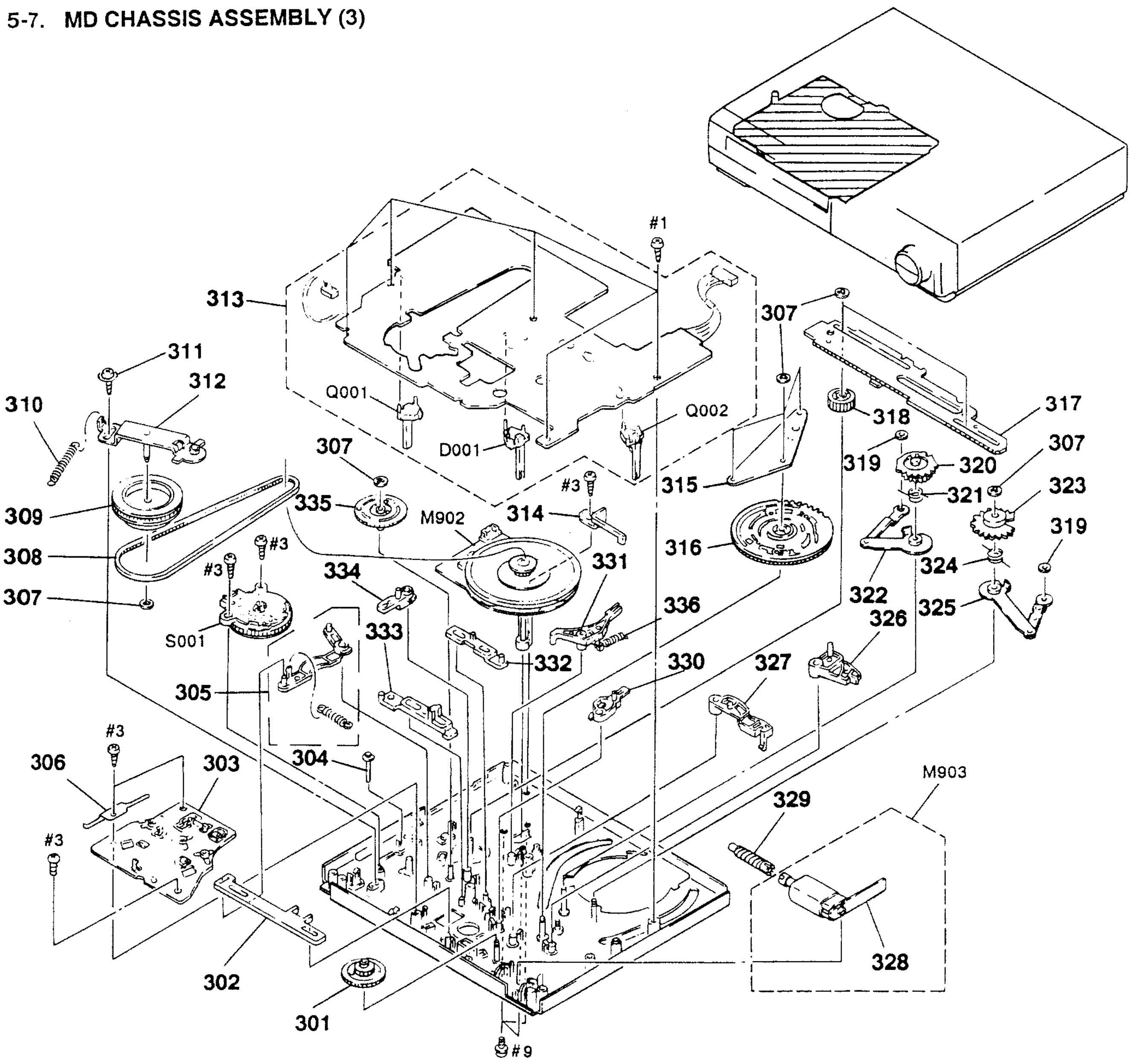


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

Ref.No.	Part No.	Description	Remark
251	A-6759-483-A	TAKE-UP BLOCK ASSY (AT), S	
252	3-736-075-01	BRAKE, S SOFT	
253	3-738-212-21	RETAINER, THRUST, REEL TABLE	
254	X-3941-194-1	TABLE ASSY, REEL, S	
255	3-736-151-11	ARM (POM), TENSION REGULATOR	
256	X-3727-797-1	BAND ASSY, TENSION REGULATOR	
257	X-3727-786-1	SHUTTLE (LEFT) ASSY	
258	X-3733-301-1	ROLLER ASSY, GUIDE	
259	X-3727-767-1	BASE ASSY, STABILIZER	
260	1-543-647-11	HEAD, FE	
261	3-736-082-01	RETAINER, TS THRUST	
262	3-741-925-01	RING RETAINING	
263	X-3727-771-1	STABLILIZER ASSY, TAPE	
264	8-848-553-01	DRUM ASSY, ROTARY UPPER(DZR-28-R)(686HF)	
264	8-848-555-01	DRUM ASSY, ROTARY UPPER(DZR-37-R) (EXCEPT 686HF)	
265	2-643-205-01	SCREW (PSW)3X8	
266	3-942-867-01	NUT, AC HEIGHT ADJUSTMENT	
267	A-6761-129-C	HEAD BLOCK ASSY, ACE	
268	3-736-042-01	SPRING, TORSION	
269	3-736-047-01	SPRING (S SOFT), TENSION	
270	X-3729-926-1	BRAKE ASSY (2), T	
271	3-738-220-01	SPRING (MAIN BRAKE 2), TENSION	
272	X-3733-336-2	BRAKE ASSY (2) (AT), S	
273	3-738-221-01	SPRING (MAIN BRAKE 1), TENSION	
274	X-3727-791-2	BASE ASSY, DRUM	
275	3-733-389-11	SPRING, TENSION	
276	A-6747-267-A	ARM BLOCK ASSY (S), C ROLLER	
277	3-944-033-01	FLANGE, 7 GUIDE	
278	3-736-730-01	SLEEVE, #7 GUIDE	
279	3-749-099-01	SPRING (#7 GUIDE), COMPRESSION	
280	X-3727-787-1	SHUTTLE (RIGHT) ASSY	
281	X-3727-788-1	ROLLER ASSY, GUIDE, #2	
282	3-736-745-01	SPRING	
283	3-738-284-01	SPRING, TENSION	
284	X-3733-304-1	GROUND ASSY, SHAFT	
285	3-736-073-01	SLIDER, POLYETHYLENE	
286	3-942-866-01	NUT (M3) (3X0.5), NYLON	
287	X-3743-517-1	LEVER (S), RELEASE, C ROLLER	
288	3-736-735-03	SPRING, TENSION	
⚠M901	8-848-552-11	DRUM ASSY (DZH-28A-R)(686HF)	
⚠M901	8-848-554-01	DRUM ASSY (DZH-37A-R)(EXCEPT 686HF)	

5-7. MD CHASSIS ASSEMBLY (3)



313
311
312
310
309
308
307
#3
S001
305
306
#3
303
#3
302
301
#9
304
333
334
335
307
Q001
D001
M902
314
#3
331
332
336
330
327
326
#1
Q002
307
315
316
318
317
319
320
307
321
323
319
324
322
325
M903
329
328

Ref. No.	Part No.	Description	Remark
301	3-736-015-01	WHEEL (CAM), WORM	
302	3-736-158-01	PLATE, SLIDE, PENDULUM	
303	A-6739-084-A	CHASSIS BLOCK ASSY, SUB	
304	3-736-091-01	PIN, SWITCH	
305	X-3729-924-1	ARM, PENDULUM FUNCTION	
306	3-741-950-01	SPRING (AT), LEAF, SC GROUND	
307	3-669-595-00	WASHER (2), STOPPER	
308	3-736-013-01	BELT, TIMING	
309	X-3727-782-1	PULLEY ASSY	
310	3-736-089-01	SPRING, TENSION	
311	3-733-386-01	SCREW (3X8), WASHER	
312	X-3727-761-1	ARM ASSY, ADJUSTMENT	
313	A-6754-420-A	MD-49 BOARD, COMPLETE	
314	3-736-744-01	RETAINER, ROTOR	
315	3-733-396-01	HOLDER, CAM GEAR	
316	3-736-176-01	GEAR, CAM	
317	3-736-177-01	PLATE, SLIDE, MODE	
318	3-733-394-01	GEAR, RVS RELAY	
319	3-736-073-01	SLIDER, POLYETHYLENE	
320	3-736-148-01	GEAR (RIGHT), THREADING	
321	3-736-092-01	SPRING (RIGHT), TORSION	
322	X-3727-777-1	ARM (RIGHT) ASSY, THREADING	
323	3-736-147-01	GEAR (LEFT), THREADING	
324	3-736-040-01	SPRING (LEFT), TORSION	
325	X-3727-778-1	ARM (LEFT) ASSY, THREADING	
326	3-736-142-01	ARM, TENSION REGULATOR FUNCTION	
327	3-736-140-01	ARM, S TAKE-UP	
* 328	1-633-460-11	CA-41 BOARD	
329	3-733-395-01	GEAR (CAM), WORM	
330	3-733-397-01	ARM, BRAKE FUNCTION	
331	X-3733-338-1	BRAKE ASSY (AT), CAP	
332	3-733-398-05	PLATE, SLIDE, BRAKE	
333	3-736-103-01	PLATE, SLIDE, LIMITER	
334	3-736-016-01	ARM, LIMITER FUNCTION	
335	3-736-170-01	GEAR, RKB CAM	
336	3-738-237-01	SPRING (CAP BRAKE), TENSION	
D001	8-719-985-00	DIODE GL451VS1 (LED)	
M902	8-835-394-11	MOTOR, DC U-26F (CAPSTAN)	
M903	X-3733-302-1	MOTOR ASSY, CAM	
Q001	8-729-926-31	PHOTO TRANSISTOR PT483F1S	
Q002	8-729-926-31	PHOTO TRANSISTOR PT483F1S	
S001	1-692-062-11	SWITCH, ROTARY	

CA-47

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- Hardware (# mark) list is given in the last of this parts list.
- Canadian model is abbreviated as CND, and also Mexican model is MX.

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ , for example:
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF : μF
- COILS
  uH : μH

Ref. No.	Part No.	Description				Remark
	A-6754-360-B	CA-47 BOARD, COMPLETE (585HF/589HF)				
		*********************				
*	A-6754-361-B	CA-47 BOARD, COMPLETE (686HF)				
		*********************				
		(Ref.No 4000 Series)				
*	3-941-503-01	CASE, SHIELD, AU				
		(BUZZER)				
BZ301	1-529-080-11	BUZZER, PIEZOELECTRIC				
		(CAPACITOR)				
C201	1-137-075-11	FILM	0.068uF	5%	100V	(686HF)
C202	1-162-844-11	CERAMIC	0.027uF	10%	16V	(686HF)
C203	1-161-051-00	CERAMIC	0.01uF	10%	50V	(686HF)
C204	1-164-087-11	CERAMIC	0.0015uF	10%	50V	(686HF)
C205	1-124-126-00	ELECT	47uF	20%	10V	(686HF)
C207	1-136-559-11	FILM	0.0047uF	10%	630V	(585HF/589HF)
C207	1-136-561-11	FILM	0.0068uF	10%	400V	(686HF)
C208	1-164-087-11	CERAMIC	0.0015uF	10%	50V	
C209	1-161-051-00	CERAMIC	0.01uF	10%	50V	
C211	1-164-085-11	CERAMIC	0.001uF	10%	50V	
C212	1-124-925-11	ELECT	2.2uF	20%	100V	
C213	1-161-044-00	CERAMIC	0.0039uF	10%	16V	
C214	1-162-837-11	CAP, CERAMIC	0.0068uF X			
C215	1-124-907-11	ELECT	10uF	20%	50V	
C216	1-124-903-11	ELECT	1uF	20%	50V	
C217	1-164-085-11	CERAMIC	0.001uF	10%	50V	
C218	1-124-126-00	ELECT	47uF	20%	10V	
C219	1-124-903-11	ELECT	1uF	20%	50V	
C221	1-124-925-11	ELECT	2.2uF	20%	100V	
C222	1-161-051-00	CERAMIC	0.01uF	10%	50V	
C224	1-162-835-11	CERAMIC	0.0047uF	10%	16V	
C225	1-124-903-11	ELECT	1uF	20%	50V	
C226	1-124-903-11	ELECT	1uF	20%	50V	
C227	1-124-126-00	ELECT	47uF	20%	10V	
C228	1-124-126-00	ELECT	47uF	20%	10V	
C229	1-124-034-51	ELECT	33uF	20%	16V	

Ref. No.	Part No.	Description				Remark
C231	1-164-077-11	CERAMIC	220PF	10%	50V	
C301	1-164-098-11	CERAMIC	0.047uF		12V	
C302	1-124-126-00	ELECT	47uF	20%	10V	
C303	1-162-849-11	CERAMIC	0.068uF	10%	16V	
C304	1-124-234-00	ELECT	22uF	20%	16V	
C305	1-124-443-00	ELECT	100uF	20%	10V	
C307	1-161-039-00	CERAMIC	0.001uF	10%	50V	
C308	1-161-047-00	CERAMIC	0.0047uF	10%	50V	
C309	1-162-851-11	CERAMIC	0.1uF	10%	16V	
C310	1-124-925-11	ELECT	2.2uF	20%	100V	
C313	1-124-126-00	ELECT	47uF	20%	10V	
C314	1-164-098-11	CERAMIC	0.047uF		12V	
C315	1-164-085-11	CERAMIC	0.001uF	10%	50V	
C317	1-126-163-11	ELECT	4.7uF	20%	50V	
		(CONNECTOR)				
CN201	1-506-469-11	CONNECTOR	4P, MALE			
CN202	1-506-468-11	CONNECTOR	3P, MALE			
* CN203	1-568-787-11	PIN, CONNECTOR 10P				
CN301	1-506-468-11	CONNECTOR	3P, MALE			
* CN302	1-568-788-21	PIN, CONNECTOR 11P				
CN303	1-506-469-11	CONNECTOR	4P, MALE			
		(DIODE)				
D303	8-719-911-19	DIODE 1SS119				
D304	8-719-911-19	DIODE 1SS119				
D306	8-719-911-19	DIODE 1SS119				
D351	8-719-911-19	DIODE 1SS119				
D352	8-719-911-19	DIODE 1SS119				
		(IC)				
IC201	8-759-513-18	IC BA7767AS				
IC301	8-759-246-14	IC TA8823N				
IC302	8-759-822-65	IC LC6543H-4374				
		(COIL)				
L201	1-410-679-31	INDUCTOR	270uH			
L202	1-408-247-00	INDUCTOR	33mH			
L203	1-410-120-11	INDUCTOR	1.2mH			
L204	1-410-091-31	INDUCTOR	22mH			
L301	1-408-413-00	INDUCTOR	22uH			
L302	1-408-409-00	INDUCTOR	10uH			

Ref. No.	Part No.	Description				Remark
		(TRANSISTOR)				
Q201	8-729-140-96	TRANSISTOR 2SD774-34				(686HF)
Q202	8-729-140-93	TRANSISTOR 2SB734-34				(686HF)
Q203	8-729-140-96	TRANSISTOR 2SD774-34				
Q301	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q303	8-729-119-78	TRANSISTOR 2SC2785-HFE				
		(RESISTOR)				
R201	1-249-429-11	CARBON	10K	5%	1/4W	(686HF)
⚠R202	1-249-387-11	CARBON	3.3	5%	1/4W	(686HF)
R203	1-249-433-11	CARBON	22K	5%	1/4W	(686HF)
R204	1-249-429-11	CARBON	10K	5%	1/4W	(686HF)
⚠R205	1-249-387-11	CARBON	3.3	5%	1/4W	
R206	1-249-429-11	CARBON	10K	5%	1/4W	(585HF/589HF)
R206	1-249-433-11	CARBON	22K	5%	1/4W	(686HF)
R207	1-249-393-11	CARBON	10	5%	1/4W	
R208	1-249-433-11	CARBON	22K	5%	1/4W	
R209	1-249-409-11	CARBON	220	5%	1/4W	
R210	1-247-897-11	CARBON	560K	5%	1/4W	
R211	1-249-430-11	CARBON	12K	5%	1/4W	
R212	1-249-431-11	CARBON	15K	5%	1/4W	
R213	1-249-435-11	CARBON	33K	5%	1/4W	
R214	1-249-420-11	CARBON	1.8K	5%	1/4W	
R215	1-249-419-11	CARBON	1.5K	5%	1/4W	
R216	1-247-903-00	CARBON	1M	5%	1/4W	
R217	1-249-435-11	CARBON	33K	5%	1/4W	
R219	1-249-438-11	CARBON	56K	5%	1/4W	
R221	1-249-429-11	CARBON	10K	5%	1/4W	
R222	1-249-429-11	CARBON	10K	5%	1/4W	
R223	1-249-433-11	CARBON	22K	5%	1/4W	
R224	1-249-415-11	CARBON	680	5%	1/4W	
R226	1-249-418-11	CARBON	1.2K	5%	1/4W	
R228	1-249-429-11	CARBON	10K	5%	1/4W	
R229	1-249-433-11	CARBON	22K	5%	1/4W	
R230	1-249-424-11	CARBON	3.9K	5%	1/4W	
R233	1-249-429-11	CARBON	10K	5%	1/4W	
R301	1-249-439-11	CARBON	68K	5%	1/4W	
R302	1-249-441-11	CARBON	100K	5%	1/4W	
R303	1-249-441-11	CARBON	100K	5%	1/4W	
R305	1-249-435-11	CARBON	33K	5%	1/4W	
R306	1-249-411-11	CARBON	330	5%	1/4W	
R307	1-249-425-11	CARBON	4.7K	5%	1/4W	
R308	1-249-417-11	CARBON	1K	5%	1/4W	
R309	1-249-429-11	CARBON	10K	5%	1/4W	
R310	1-249-429-11	CARBON	10K	5%	1/4W	
R311	1-249-425-11	CARBON	4.7K	5%	1/4W	
R313	1-249-433-11	CARBON	22K	5%	1/4W	
R314	1-249-437-11	CARBON	47K	5%	1/4W	
R315	1-249-437-11	CARBON	47K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R316	1-249-433-11	CARBON	22K	5%	1/4W	
R317	1-249-413-11	CARBON	470	5%	1/4W	
R318	1-249-425-11	CARBON	4.7K	5%	1/4W	
R320	1-249-425-11	CARBON	4.7K	5%	1/4W	
R356	1-249-429-11	CARBON	10K	5%	1/4W	
R357	1-247-901-11	CARBON	820K	5%	1/4W	
		(VARIABLE RESISTOR)				
RV201	1-238-021-11	RES, ADJ, CARBON 220K				
		(TRANSFORMER)				
T201	1-406-349-11	TRANSFORMER, OSCILLATION				(686HF)
T202	1-433-330-11	TRANSFORMER, BIAS OSCILLATION				(585HF/589HF)
T202	1-433-352-11	TRANSFORMER, BIAS OSCILLATION				(686HF)
		(VIBRATOR)				
X301	1-577-358-21	VIBRATOR, CERAMIC (4MHz)				

****

* A-6754-400-B HF-23 BOARD, COMPLETE

****

(Ref.No 5000 Series)

Ref. No.	Part No.	Description				Remark
	3-738-216-01	COVER, VOLUME				
		(CAPACITOR)				
C204	1-124-477-11	ELECT	47uF	20%	25V	
C205	1-163-031-11	CERAMIC CHIP	0.01uF		50V	
C206	1-124-925-11	ELECT	2.2uF	20%	100V	
C207	1-124-126-00	ELECT	47uF	20%	10V	
C208	1-124-927-11	ELECT	4.7uF	20%	100V	
C209	1-124-907-11	ELECT	10uF	20%	50V	
C210	1-124-126-00	ELECT	47uF	20%	10V	
C211	1-124-925-11	ELECT	2.2uF	20%	100V	
C212	1-124-126-00	ELECT	47uF	20%	10V	
C213	1-124-126-00	ELECT	47uF	20%	10V	
C214	1-124-126-00	ELECT	47uF	20%	10V	
C215	1-124-907-11	ELECT	10uF	20%	50V	
C216	1-126-163-11	ELECT	4.7uF	20%	50V	
C217	1-124-925-11	ELECT	2.2uF	20%	100V	
C218	1-124-925-11	ELECT	2.2uF	20%	100V	
C219	1-124-907-11	ELECT	10uF	20%	50V	
C220	1-124-907-11	ELECT	10uF	20%	50V	
C221	1-130-483-00	MYLAR	0.01uF	5%	50V	
C222	1-124-927-11	ELECT	4.7uF	20%	100V	
C223	1-126-176-11	ELECT	220uF	20%	10V	
C224	1-124-925-11	ELECT	2.2uF	20%	100V	
C225	1-130-487-00	MYLAR	0.022uF	5%	50V	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
C226	1-124-907-11	ELECT	10uF	20%	50V
C227	1-126-233-11	ELECT	22uF	20%	50V
C228	1-130-473-00	MYLAR	0.0015uF	5%	50V
C229	1-130-475-00	MYLAR	0.0022uF	5%	50V
C230	1-130-475-00	MYLAR	0.0022uF	5%	50V
C232	1-124-443-00	ELECT	100uF	20%	10V
C233	1-130-477-00	MYLAR	0.0033uF	5%	50V
C234	1-124-903-11	ELECT	1uF	20%	50V
C235	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C236	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C237	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C238	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C239	1-130-475-00	MYLAR	0.0022uF	5%	50V
C240	1-130-475-00	MYLAR	0.0022uF	5%	50V
C241	1-130-473-00	MYLAR	0.0015uF	5%	50V
C242	1-126-233-11	ELECT	22uF	20%	50V
C243	1-124-925-11	ELECT	2.2uF	20%	100V
C244	1-124-907-11	ELECT	10uF	20%	50V
C245	1-130-487-00	MYLAR	0.022uF	5%	50V
C246	1-124-925-11	ELECT	2.2uF	20%	100V
C247	1-126-176-11	ELECT	220uF	20%	10V
C248	1-124-927-11	ELECT	4.7uF	20%	100V
C249	1-130-483-00	MYLAR	0.01uF	5%	50V
C250	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C299	1-163-089-00	CERAMIC CHIP	6PF		50V
		(CONNECTOR)			
CN201	1-580-848-11	SOCKET, CONNECTOR(PC BOARD) 20P			
* CN202	1-569-796-11	SOCKET, CONNECTOR 12P			
		(DIODE)			
D201	8-719-104-34	DIODE 1S2836			
		(IC)			
IC201	8-759-421-08	IC AN3937FBP			
⚠IC205	8-759-938-15	IC BA178M05			
		(JUMPER RESISTOR)			
JR201	1-216-295-00	METAL CHIP	0	5%	1/10W
JR202	1-216-295-00	METAL CHIP	0	5%	1/10W
JR203	1-216-296-00	METAL CHIP	0	5%	1/8W
JR208	1-216-295-00	METAL CHIP	0	5%	1/10W
JR209	1-216-296-00	METAL CHIP	0	5%	1/8W
JR211	1-216-296-00	METAL CHIP	0	5%	1/8W
JR212	1-216-296-00	METAL CHIP	0	5%	1/8W
JR214	1-216-295-00	METAL CHIP	0	5%	1/10W
JR215	1-216-296-00	METAL CHIP	0	5%	1/8W
JR218	1-216-296-00	METAL CHIP	0	5%	1/8W
JR219	1-216-296-00	METAL CHIP	0	5%	1/8W

Ref. No.	Part No.	Description			Remark
JR224	1-216-296-00	METAL CHIP	0	5%	1/8W
JR225	1-216-296-00	METAL CHIP	0	5%	1/8W
		(IC LINK)			
⚠PS001	1-532-679-00	LINK, IC (ICP-N15) 0.6A			
		(RESISTOR)			
R206	1-249-414-11	CARBON	560	5%	1/4W
R207	1-249-441-11	CARBON	100K	5%	1/4W
R208	1-249-437-11	CARBON	47K	5%	1/4W
R209	1-247-891-00	CARBON	330K	5%	1/4W
R210	1-249-414-11	CARBON	560	5%	1/4W
R211	1-249-441-11	CARBON	100K	5%	1/4W
R212	1-216-049-00	METAL CHIP	1K	5%	1/10W
R214	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R215	1-249-429-11	CARBON	10K	5%	1/4W
R216	1-249-417-11	CARBON	1K	5%	1/4W
R218	1-216-679-11	METAL CHIP	15K	0.5%	1/10W
R220	1-216-208-00	METAL GLAZE	2.7K	5%	1/8W
R221	1-216-049-00	METAL CHIP	1K	5%	1/10W
R222	1-216-192-00	METAL CHIP	560	5%	1/8W
R223	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R224	1-216-083-00	METAL CHIP	27K	5%	1/10W
R225	1-215-447-00	METAL	12K	1%	1/6W
R226	1-249-429-11	CARBON	10K	5%	1/4W
R227	1-249-417-11	CARBON	1K	5%	1/4W
R228	1-216-109-00	METAL CHIP	330K	5%	1/10W
		(VARIABLE RESISTOR)			
RV201	1-241-629-11	RES, ADJ, CARBON 4.7K			
RV202	1-230-523-11	RES, ADJ, METAL 10K			
RV204	1-241-630-11	RES, ADJ, CARBON 10K			
RV205	1-230-522-11	RES, ADJ, METAL 4.7K			
RV206	1-241-629-11	RES, ADJ, CARBON 4.7K			

****

*	A-6756-249-B	MA-82 BOARD, COMPLETE			
		*********************			
		(Ref.No 3000 Series)			
	1-558-924-41	CABLE, PIN			
*	3-342-612-01	TAPE, SW (D) REED			
	3-682-057-11	SPACER (SMALL)			
	3-710-578-01	COVER, 6 MOLD VOLUME			
		(CAPACITOR)			
C005	1-164-096-11	CERAMIC	0.01uF		50V
C006	1-124-443-00	ELECT	100uF	20%	10V
C007	1-124-248-00	ELECT	22uF	20%	35V
C008	1-164-096-11	CERAMIC	0.01uF		50V
C013	1-162-306-11	CERAMIC	0.01uF	20%	16V

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
C016	1-164-081-11	CERAMIC	470PF	10%	50V
C103	1-124-638-11	ELECT	22uF	20%	10V
C104	1-124-638-11	ELECT	22uF	20%	10V
C110	1-124-638-11	ELECT	22uF	20%	10V
C111	1-124-638-11	ELECT	22uF	20%	10V
C112	1-164-096-11	CERAMIC	0.01uF		50V
C151	1-124-472-11	ELECT	470uF	20%	10V
C152	1-124-126-00	ELECT	47uF	20%	10V
C153	1-124-126-00	ELECT	47uF	20%	10V
C154	1-126-163-11	ELECT	4.7uF	20%	50V
C155	1-126-163-11	ELECT	4.7uF	20%	50V
C156	1-126-163-11	ELECT	4.7uF	20%	50V
C157	1-126-163-11	ELECT	4.7uF	20%	50V
C158	1-126-163-11	ELECT	4.7uF	20%	50V
C159	1-126-163-11	ELECT	4.7uF	20%	50V
C160	1-126-163-11	ELECT	4.7uF	20%	50V
C161	1-124-584-00	ELECT	100uF	20%	10V
C162	1-124-584-00	ELECT	100uF	20%	10V
C163	1-124-584-00	ELECT	100uF	20%	10V
C164	1-124-927-11	ELECT	4.7uF	20%	100V
C165	1-124-927-11	ELECT	4.7uF	20%	100V
C166	1-124-927-11	ELECT	4.7uF	20%	100V
C167	1-124-927-11	ELECT	4.7uF	20%	100V
C174	1-164-096-11	CERAMIC	0.01uF		50V
C175	1-164-096-11	CERAMIC	0.01uF		50V
C176	1-164-096-11	CERAMIC	0.01uF		50V
C177	1-164-096-11	CERAMIC	0.01uF		50V
C190	1-124-927-11	ELECT	4.7uF	20%	100V
C401	1-130-489-00	MYLAR	0.033uF	5%	50V
C402	1-126-233-11	ELECT	22uF	20%	50V
C403	1-164-096-11	CERAMIC	0.01uF		50V
C404	1-124-925-11	ELECT	2.2uF	20%	100V
C405	1-124-907-11	ELECT	10uF	20%	50V
C406	1-126-233-11	ELECT	22uF	20%	50V
C407	1-130-487-00	MYLAR	0.022uF	5%	50V
C432	1-164-058-11	CERAMIC	33PF	5%	50V
C433	1-164-081-11	CERAMIC	470PF	10%	50V
C434	1-164-068-11	CERAMIC	82PF	5%	50V
C435	1-164-096-11	CERAMIC	0.01uF		50V
C436	1-162-851-11	CERAMIC	0.1uF	10%	16V
C437	1-126-233-11	ELECT	22uF	20%	50V
C438	1-162-851-11	CERAMIC	0.1uF	10%	16V
C439	1-130-491-00	MYLAR	0.047uF	5%	50V
C441	1-161-045-00	CERAMIC	0.0033uF	10%	50V
C442	1-126-101-11	ELECT	100uF	20%	16V
C490	1-162-306-11	CERAMIC	0.01uF	20%	16V
C501	1-124-442-00	ELECT	330uF	20%	6.3V
C502	1-164-159-11	CERAMIC	0.1uF		50V
C504	1-164-052-11	CERAMIC	18PF	5%	50V
C505	1-164-052-11	CERAMIC	18PF	5%	50V

Ref. No.	Part No.	Description			Remark
C506	1-164-077-11	CERAMIC	220PF	10%	50V
C507	1-164-096-11	CERAMIC	0.01uF		50V
C508	1-162-306-11	CERAMIC	0.01uF	20%	16V
C521	1-164-088-11	CERAMIC	0.001uF		50V
C531	1-124-478-11	ELECT	100uF	20%	25V
C602	1-102-964-00	CERAMIC	36PF	5%	50V
C607	1-124-126-00	ELECT	47uF	20%	10V
C608	1-164-096-11	CERAMIC	0.01uF		50V
C611	1-164-096-11	CERAMIC	0.01uF		50V
C612	1-164-096-11	CERAMIC	0.01uF		50V
C613	1-124-126-00	ELECT	47uF	20%	10V
C614	1-164-023-11	CERAMIC	15PF	5%	50V
C615	1-164-023-11	CERAMIC	15PF	5%	50V
C617	1-102-958-00	CERAMIC	20PF	5%	50V
C618	1-130-471-00	MYLAR	0.001uF	5%	50V
C619	1-162-835-11	CERAMIC	0.0047uF	10%	16V
C621	1-164-096-11	CERAMIC	0.01uF		50V
C622	1-124-903-11	ELECT	1uF	20%	50V
C623	1-124-126-00	ELECT	47uF	20%	10V
C624	1-164-096-11	CERAMIC	0.01uF		50V
C625	1-136-480-11	FILM	0.0015uF	5%	100V
C626	1-164-096-11	CERAMIC	0.01uF		50V
C627	1-164-077-11	CERAMIC	220PF	10%	50V
C628	1-124-902-00	ELECT	0.47uF	20%	50V
C629	1-126-154-11	ELECT	47uF	20%	6.3V
C630	1-124-927-11	ELECT	4.7uF	20%	100V
C631	1-124-034-51	ELECT	33uF	20%	16V
C632	1-130-473-00	MYLAR	0.0015uF	5%	50V
C634	1-130-471-00	MYLAR	0.001uF	5%	50V
C635	1-162-294-31	CERAMIC	0.001uF	10%	50V
C690	1-162-285-31	CERAMIC	180PF	10%	50V
C691	1-162-196-31	CERAMIC	5.6PF	10%	50V
C692	1-162-203-31	CERAMIC	15PF	5%	50V
C699	1-162-211-31	CERAMIC	33PF	5%	50V

(CONNECTOR)

Ref. No.	Part No.	Description
CN001	1-569-338-11	CONNECTOR, BOARD TO BOARD 19P
CN002	1-569-338-11	CONNECTOR, BOARD TO BOARD 19P
CN003	1-506-473-11	CONNECTOR 8P, MALE
CN004	1-569-341-11	CONNECTOR, BOARD TO BOARD 19P
* CN006	1-506-744-11	PIN, CONNECTOR 15P
* CN007	1-568-714-11	PIN, CONNECTOR 7P
CN008	1-580-847-11	CONNECTOR, BOARD TO BOARD 15P
CN009	1-580-847-11	CONNECTOR, BOARD TO BOARD 15P
CN010	1-569-341-11	CONNECTOR, BOARD TO BOARD 19P
* CN011	1-569-797-11	PIN, CONNECTOR (PC BOARD) 12P
* CN012	1-569-797-11	PIN, CONNECTOR (PC BOARD) 12P
* CN014	1-568-787-11	PIN, CONNECTOR 10P
CN015	1-580-849-11	PIN, CONNECTOR (PC BOARD) 20P
* CN016	1-569-797-11	PIN, CONNECTOR (PC BOARD) 12P
CN017	1-506-469-11	CONNECTOR 4P, MALE

MA-82

Ref. No.	Part No.	Description	Remark
* CN018	1-568-788-21	PIN, CONNECTOR 11P	
* CN900	1-560-890-00	PIN, CONNECTOR 2P	
		(JACK)	
CNJ001	1-507-562-00	JACK (CONTROL S IN)	
CNJ002	1-565-320-71	JACK, PIN 6P (LINE IN1 / V/A OUT)	
		(DIODE)	
D151	8-719-109-97	DIODE RD6.8ES-B2	
D151	8-719-110-02	DIODE RD7.5ES-B1	
D151	8-719-110-03	DIODE RD7.5ES-B2	
D152	8-719-109-97	DIODE RD6.8ES-B2	
D152	8-719-110-02	DIODE RD7.5ES-B1	
D152	8-719-110-03	DIODE RD7.5ES-B2	
D401	8-719-101-50	DIODE RD5.1E-L2	
D405	8-719-101-47	DIODE RD4.7E-L2	
D502	8-719-911-19	DIODE 1SS119	
D505	8-719-911-19	DIODE 1SS119	
D601	8-719-911-19	DIODE 1SS119	
D603	8-719-911-19	DIODE 1SS119	
D604	8-719-911-19	DIODE 1SS119	
D605	8-719-911-19	DIODE 1SS119	
D606	8-719-911-19	DIODE 1SS119	
D608	8-719-911-19	DIODE 1SS119	
D610	8-719-109-97	DIODE RD6.8ES-B2	
D611	8-719-200-82	DIODE 11ES2	
		(FERRITE BEAD)	
FB101	1-410-397-21	FERRITE BEAD INDUCTOR	
FB601	1-410-397-21	FERRITE BEAD INDUCTOR	
FB602	1-410-396-41	INDUCTOR 0.45UH	
		(IC)	
IC101	8-759-804-80	IC LA7235	
IC102	8-759-927-56	IC BA7021	
IC103	8-759-961-38	IC BA6138	
IC401	8-759-008-71	IC LM324N	
IC402	8-759-113-18	IC uPC4574C	
⚠IC403	8-759-983-45	IC BA6238A	
IC501	8-752-819-83	IC CXP80624-208Q	
IC601	8-759-636-15	IC M50555-054SP	
IC602	8-759-115-55	IC uPC1555C	
		(COIL)	
L101	1-408-421-00	INDUCTOR 100uH	
L102	1-408-409-00	INDUCTOR 10uH	
L103	1-410-977-11	INDUCTOR 100uH	
L110	1-410-498-11	INDUCTOR 1.2uH	
L111	1-410-498-11	INDUCTOR 1.2uH	
L112	1-410-498-11	INDUCTOR 1.2uH	
L151	1-408-409-00	INDUCTOR 10uH	
L431	1-408-413-00	INDUCTOR 22uH	
L432	1-408-413-00	INDUCTOR 22uH	
L501	1-408-409-00	INDUCTOR 10uH	
L602	1-412-470-21	INDUCTOR 22uH	
L603	1-408-421-00	INDUCTOR 100uH	
L604	1-408-421-00	INDUCTOR 100uH	
L605	1-408-416-00	INDUCTOR 39uH	
L606	1-408-414-00	INDUCTOR 27uH	
		(TRANSISTOR)	
Q151	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q152	8-729-900-89	TRANSISTOR DTC144ES	
Q153	8-729-900-89	TRANSISTOR DTC144ES	
Q154	8-729-900-89	TRANSISTOR DTC144ES	
Q155	8-729-102-14	TRANSISTOR 2SD1012F	
Q156	8-729-102-14	TRANSISTOR 2SD1012F	
Q157	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q401	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q402	8-729-900-63	TRANSISTOR DTA124ES	
Q403	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q404	8-729-601-47	TRANSISTOR 2SK381-B	
Q431	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q432	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q433	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q434	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q439	8-729-601-47	TRANSISTOR 2SK381-B	
Q501	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q601	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q602	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q603	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q605	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q606	8-729-900-65	TRANSISTOR DTA144ES	
Q607	8-729-900-89	TRANSISTOR DTC144ES	
Q608	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q609	8-729-119-76	TRANSISTOR 2SA1175-HFE	
		(RESISTOR)	
R101	1-215-435-00	METAL 3.9K 1% 1/6W	
R102	1-215-431-00	METAL 2.7K 1% 1/6W	
R103	1-215-433-00	METAL 3.3K 1% 1/6W	
R104	1-215-435-00	METAL 3.9K 1% 1/6W	
R106	1-249-422-11	CARBON 2.7K 5% 1/4W	
R107	1-249-422-11	CARBON 2.7K 5% 1/4W	
R123	1-249-417-11	CARBON 1K 5% 1/4W	
R131	1-249-429-11	CARBON 10K 5% 1/4W	
R132	1-249-429-11	CARBON 10K 5% 1/4W	
R151	1-249-406-11	CARBON 120 5% 1/4W	
R152	1-249-406-11	CARBON 120 5% 1/4W	
R153	1-247-804-11	CARBON 75 5% 1/4W	
R154	1-249-404-00	CARBON 82 5% 1/4W	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description				Remark
R161	1-249-405-11	CARBON	100	5%	1/4W	
R162	1-249-429-11	CARBON	10K	5%	1/4W	
R164	1-249-426-11	CARBON	5. 6K	5%	1/4W	
R165	1-249-421-11	CARBON	2. 2K	5%	1/4W	
R166	1-249-441-11	CARBON	100K	5%	1/4W	
R167	1-249-423-11	CARBON	3. 3K	5%	1/4W	
R168	1-249-424-11	CARBON	3. 9K	5%	1/4W	
R169	1-249-423-11	CARBON	3. 3K	5%	1/4W	
R170	1-249-424-11	CARBON	3. 9K	5%	1/4W	
R171	1-247-891-00	CARBON	330K	5%	1/4W	
R172	1-247-891-00	CARBON	330K	5%	1/4W	
R173	1-249-429-11	CARBON	10K	5%	1/4W	
R174	1-249-429-11	CARBON	10K	5%	1/4W	
R181	1-249-422-11	CARBON	2. 7K	5%	1/4W	
R182	1-249-422-11	CARBON	2. 7K	5%	1/4W	
R185	1-249-423-11	CARBON	3. 3K	5%	1/4W	
R186	1-249-423-11	CARBON	3. 3K	5%	1/4W	
R190	1-249-425-11	CARBON	4. 7K	5%	1/4W	
R191	1-249-425-11	CARBON	4. 7K	5%	1/4W	
R194	1-249-429-11	CARBON	10K	5%	1/4W	
R195	1-249-417-11	CARBON	1K	5%	1/4W	
R196	1-249-429-11	CARBON	10K	5%	1/4W	
R197	1-249-429-11	CARBON	10K	5%	1/4W	
R399	1-249-424-11	CARBON	3. 9K	5%	1/4W	
R401	1-249-432-11	CARBON	18K	5%	1/4W	
R402	1-249-431-11	CARBON	15K	5%	1/4W	
R403	1-249-417-11	CARBON	1K	5%	1/4W	
R404	1-249-436-11	CARBON	39K	5%	1/4W	
R405	1-249-433-11	CARBON	22K	5%	1/4W	
R406	1-249-429-11	CARBON	10K	5%	1/4W	
R407	1-249-427-11	CARBON	6. 8K	5%	1/4W	
R408	1-249-417-11	CARBON	1K	5%	1/4W	
R410	1-249-429-11	CARBON	10K	5%	1/4W	
R411	1-249-429-11	CARBON	10K	5%	1/4W	
R412	1-247-885-00	CARBON	180K	5%	1/4W	
R413	1-249-429-11	CARBON	10K	5%	1/4W	
R414	1-249-430-11	CARBON	12K	5%	1/4W	
R415	1-249-417-11	CARBON	1K	5%	1/4W	
R416	1-249-423-11	CARBON	3. 3K	5%	1/4W	
R417	1-249-441-11	CARBON	100K	5%	1/4W	
R420	1-247-885-00	CARBON	180K	5%	1/4W	
R421	1-249-429-11	CARBON	10K	5%	1/4W	
R422	1-249-429-11	CARBON	10K	5%	1/4W	
R423	1-249-429-11	CARBON	10K	5%	1/4W	
R424	1-249-415-11	CARBON	680	5%	1/4W	
R425	1-249-415-11	CARBON	680	5%	1/4W	
R431	1-249-430-11	CARBON	12K	5%	1/4W	
R432	1-249-431-11	CARBON	15K	5%	1/4W	
R433	1-249-417-11	CARBON	1K	5%	1/4W	
R434	1-249-417-11	CARBON	1K	5%	1/4W	
R435	1-249-418-11	CARBON	1. 2K	5%	1/4W	
R436	1-249-417-11	CARBON	1K	5%	1/4W	
R437	1-247-897-11	CARBON	560K	5%	1/4W	
R438	1-249-421-11	CARBON	2. 2K	5%	1/4W	
R439	1-249-421-11	CARBON	2. 2K	5%	1/4W	
R440	1-249-428-11	CARBON	8. 2K	5%	1/4W	
R441	1-249-402-11	CARBON	56	5%	1/4W	
R442	1-249-413-11	CARBON	470	5%	1/4W	
R443	1-249-427-11	CARBON	6. 8K	5%	1/4W	
R444	1-249-437-11	CARBON	47K	5%	1/4W	
R445	1-249-435-11	CARBON	33K	5%	1/4W	
R446	1-249-429-11	CARBON	10K	5%	1/4W	
R447	1-249-435-11	CARBON	33K	5%	1/4W	
R450	1-249-417-11	CARBON	1K	5%	1/4W	
R451	1-249-434-11	CARBON	27K	5%	1/4W	
R461	1-249-429-11	CARBON	10K	5%	1/4W	
R463	1-249-410-11	CARBON	270	5%	1/4W	
R464	1-249-441-11	CARBON	100K	5%	1/4W	
R475	1-249-425-11	CARBON	4. 7K	5%	1/4W	
R490	1-249-417-11	CARBON	1K	5%	1/4W	
R492	1-249-409-11	CARBON	220	5%	1/4W	
R493	1-249-429-11	CARBON	10K	5%	1/4W	
R494	1-249-429-11	CARBON	10K	5%	1/4W	
R495	1-249-429-11	CARBON	10K	5%	1/4W	
R496	1-249-429-11	CARBON	10K	5%	1/4W	
R515	1-249-411-11	CARBON	330	5%	1/4W	
R531	1-249-417-11	CARBON	1K	5%	1/4W	
R556	1-249-437-11	CARBON	47K	5%	1/4W	
R557	1-249-437-11	CARBON	47K	5%	1/4W	
R558	1-249-437-11	CARBON	47K	5%	1/4W	
R559	1-249-437-11	CARBON	47K	5%	1/4W	
R560	1-249-437-11	CARBON	47K	5%	1/4W	
R561	1-249-437-11	CARBON	47K	5%	1/4W	
R563	1-249-437-11	CARBON	47K	5%	1/4W	
R567	1-249-425-11	CARBON	4. 7K	5%	1/4W	
R568	1-249-425-11	CARBON	4. 7K	5%	1/4W	
R570	1-249-437-11	CARBON	47K	5%	1/4W	
R571	1-249-422-11	CARBON	2. 7K	5%	1/4W	
R572	1-249-429-11	CARBON	10K	5%	1/4W	
R573	1-249-428-11	CARBON	8. 2K	5%	1/4W	
R574	1-249-429-11	CARBON	10K	5%	1/4W	
R575	1-249-421-11	CARBON	2. 2K	5%	1/4W	
R590	1-249-427-11	CARBON	6. 8K	5%	1/4W	
R618	1-249-413-11	CARBON	470	5%	1/4W	
R619	1-249-413-11	CARBON	470	5%	1/4W	
R622	1-249-414-11	CARBON	560	5%	1/4W	
R623	1-249-420-11	CARBON	1. 8K	5%	1/4W	
R624	1-249-422-11	CARBON	2. 7K	5%	1/4W	
R625	1-249-421-11	CARBON	2. 2K	5%	1/4W	
R630	1-249-422-11	CARBON	2. 7K	5%	1/4W	

MA-82 **MD-49**

Ref. No.	Part No.	Description	Remark
R631	1-249-423-11	CARBON 3.3K 5% 1/4W	
R632	1-249-414-11	CARBON 560 5% 1/4W	
R633	1-249-415-11	CARBON 680 5% 1/4W	
R634	1-249-422-11	CARBON 2.7K 5% 1/4W	
R635	1-249-424-11	CARBON 3.9K 5% 1/4W	
R636	1-249-422-11	CARBON 2.7K 5% 1/4W	
R637	1-249-425-11	CARBON 4.7K 5% 1/4W	
R638	1-249-424-11	CARBON 3.9K 5% 1/4W	
R639	1-247-903-00	CARBON 1M 5% 1/4W	
R640	1-249-419-11	CARBON 1.5K 5% 1/4W	
R641	1-249-429-11	CARBON 10K 5% 1/4W	
R642	1-215-453-00	METAL 22K 1% 1/6W	
R643	1-249-429-11	CARBON 10K 5% 1/4W	
R644	1-249-423-11	CARBON 3.3K 5% 1/4W	
R645	1-249-425-11	CARBON 4.7K 5% 1/4W	
R646	1-249-421-11	CARBON 2.2K 5% 1/4W	
R647	1-249-429-11	CARBON 10K 5% 1/4W	
R648	1-249-439-11	CARBON 68K 5% 1/4W	
R649	1-249-437-11	CARBON 47K 5% 1/4W	
R650	1-249-441-11	CARBON 100K 5% 1/4W	
R653	1-249-431-11	CARBON 15K 5% 1/4W	
R654	1-249-435-11	CARBON 33K 5% 1/4W	
R655	1-249-413-11	CARBON 470 5% 1/4W	
R656	1-249-417-11	CARBON 1K 5% 1/4W	
R657	1-249-405-11	CARBON 100 5% 1/4W	
R658	1-249-417-11	CARBON 1K 5% 1/4W	
R660	1-249-433-11	CARBON 22K 5% 1/4W	
R661	1-249-409-11	CARBON 220 5% 1/4W	
R663	1-249-435-11	CARBON 33K 5% 1/4W	
R665	1-249-431-11	CARBON 15K 5% 1/4W	
R680	1-249-409-11	CARBON 220 5% 1/4W	
R681	1-249-433-11	CARBON 22K 5% 1/4W	
R682	1-249-437-11	CARBON 47K 5% 1/4W	
R696	1-249-423-11	CARBON 3.3K 5% 1/4W	
R697	1-249-429-11	CARBON 10K 5% 1/4W	
R699	1-249-417-11	CARBON 1K 5% 1/4W	
R951	1-249-429-11	CARBON 10K 5% 1/4W	
		(RF MODULATOR)	
⚠RF001	1-466-150-11	MODULATOR, RF (RFU-1025)	
		(VARIABLE RESISTOR)	
RV401	1-241-628-11	RES, ADJ, CARBON 2.2K	
RV501	1-241-632-11	RES, ADJ, CARBON 47K	
RV502	1-241-632-11	RES, ADJ, CARBON 47K	
RV600	1-228-995-00	RES, ADJ, METAL 22K	
		(VIBRATOR)	
X501	1-578-774-11	VIBRATOR, CRYSTAL (14.3MHz)	
X601	1-577-381-11	VIBRATOR, CRYSTAL (12MHz)	

Ref. No.	Part No.	Description	Remark
**			
	A-6754-420-A	MD-49 BOARD, COMPLETE ******************** (Ref. No 4000 Series)	
	1-691-643-11	CONNECTOR, BOARD TO BOARD	
*	2-387-601-01	CUSHION, RUBBER	
		(CAPACITOR)	
C001	1-161-494-00	CERAMIC 0.022uF 25V	
C002	1-161-494-00	CERAMIC 0.022uF 25V	
C003	1-126-157-11	ELECT 10uF 20% 16V	
C004	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C005	1-126-157-11	ELECT 10uF 20% 16V	
C006	1-124-589-11	ELECT 47uF 20% 16V	
C008	1-164-159-11	CERAMIC 0.1uF 50V	
C009	1-164-159-11	CERAMIC 0.1uF 50V	
C011	1-162-849-11	CERAMIC 0.068uF 10% 16V	
C012	1-162-849-11	CERAMIC 0.068uF 10% 16V	
C013	1-162-849-11	CERAMIC 0.068uF 10% 16V	
C014	1-126-160-11	ELECT 1uF 20% 50V	
C016	1-124-589-11	ELECT 47uF 20% 16V	
C017	1-126-162-11	ELECT 3.3uF 20% 50V	
C018	1-124-589-11	ELECT 47uF 20% 16V	
C019	1-124-589-11	ELECT 47uF 20% 16V	
C020	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C021	1-162-292-31	CERAMIC 680PF 10% 50V	
C027	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C028	1-162-294-31	CERAMIC 0.001uF 10% 50V	
		(CONNECTOR)	
CN001	1-506-494-11	PIN, CONNECTOR 15P	
CN002	1-569-335-11	CONNECTOR, BOARD TO BOARD 9P	
CN004	1-569-341-11	CONNECTOR, BOARD TO BOARD 19P	
CN005	1-506-482-11	CONNECTOR 3P, MALE	
CN006	1-569-333-11	CONNECTOR, BOARD TO BOARD 3P	
CN007	1-569-341-11	CONNECTOR, BOARD TO BOARD 19P	
		(DIODE)	
D001	8-719-985-00	DIODE GL451VS1	
D004	8-719-109-93	DIODE RD6.2ES-B2	
D005	8-719-109-93	DIODE RD6.2ES-B2	
D006	8-719-109-93	DIODE RD6.2ES-B2	
D007	8-719-109-93	DIODE RD6.2ES-B2	
		(IC)	
IC002	8-759-938-12	IC BA10324	
⚠IC004	8-759-234-03	IC TA8424F	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
		(PHOTO SENSOR)	
PH001	8-759-144-33	PHOTO SENSOR PS6002	
PH002	8-759-144-33	PHOTO SENSOR PS6002	
		(IC LINK)	
⚠PS001	1-532-685-00	LINK, IC (ICP-N20) 0.8A	
		(TRANSISTOR)	
Q001	8-729-926-31	PHOTO TRANSISTOR PT483F1S	
Q002	8-729-926-31	PHOTO TRANSISTOR PT483F1S	
		(RESISTOR)	
R001	1-249-423-11	CARBON 3.3K 5% 1/4W	
R002	1-249-423-11	CARBON 3.3K 5% 1/4W	
R003	1-249-426-11	CARBON 5.6K 5% 1/4W	
R004	1-249-426-11	CARBON 5.6K 5% 1/4W	
R005	1-249-417-11	CARBON 1K 5% 1/4W	
R006	1-249-441-11	CARBON 100K 5% 1/4W	
R007	1-249-441-11	CARBON 100K 5% 1/4W	
R008	1-249-425-11	CARBON 4.7K 5% 1/4W	
R009	1-249-409-11	CARBON 220 5% 1/4W	
R010	1-249-425-11	CARBON 4.7K 5% 1/4W	
R011	1-249-437-11	CARBON 47K 5% 1/4W	
R012	1-249-421-11	CARBON 2.2K 5% 1/4W	
R013	1-249-429-11	CARBON 10K 5% 1/4W	
R014	1-249-426-11	CARBON 5.6K 5% 1/4W	
R015	1-249-437-11	CARBON 47K 5% 1/4W	
R016	1-249-421-11	CARBON 2.2K 5% 1/4W	
R019	1-249-377-11	CARBON 0.47 5% 1/4W	F
R019	1-249-443-11	CARBON 0.47 5% 1/4W	F
R020	1-249-406-11	CARBON 120 5% 1/4W	
R021	1-249-383-11	CARBON 1.5 5% 1/6W	
R022	1-249-408-11	CARBON 180 5% 1/4W	
R024	1-249-417-11	CARBON 1K 5% 1/4W	
R025	1-247-891-00	CARBON 330K 5% 1/4W	
R027	1-249-383-11	CARBON 1.5 5% 1/6W	
R028	1-249-383-11	CARBON 1.5 5% 1/6W	
		(SWITCH)	
S001	1-570-953-11	SWITCH, PUSH (1 KEY)	
S002	1-570-953-11	SWITCH, PUSH (1 KEY)	

****

Ref. No.	Part No.	Description	Remark
	A-6721-389-B	MF-122 BOARD, COMPLETE (585HF;US/PX)	
		**********************	
	A-6721-390-B	MF-122 BOARD, COMPLETE (585HF/589HF;CND)	
		**********************	
	A-6721-393-B	MF-122 BOARD, COMPLETE (686HF;CND)	
		**********************	
*	A-6721-391-B	MF-122 BOARD, COMPLETE (686HF;US/MX)	
		**********************	
		(Ref.No 5000 Series)	
*	3-941-531-01	HOLDER, FL	
		(CAPACITOR)	
C803	1-164-056-11	CERAMIC 27PF 5% 50V	
C804	1-125-486-11	DOUBLE LAYERS 0.22F 5.5V	
C805	1-126-160-11	ELECT 1uF 20% 50V	
C808	1-161-494-00	CERAMIC 0.022uF 25V	
C809	1-124-584-00	ELECT 100uF 20% 10V	
C810	1-161-494-00	CERAMIC 0.022uF 25V	
C811	1-126-157-11	ELECT 10uF 20% 16V	
		(VIBRATOR)	
CF801	1-577-101-11	VIBRATOR, CERAMIC	
		(CONNECTOR)	
CN801	1-580-846-11	CONNECTOR, BOARD TO BOARD 15P	
CN802	1-580-846-11	CONNECTOR, BOARD TO BOARD 15P	
CN803	1-562-631-11	SOCKET, CONNECTOR	
CN804	1-580-850-11	CONNECTOR (DMS) 8P	
CN805	1-568-672-11	CONNECTOR, BOARD TO BOARD 12P	
		(TRIMMER)	
CT801	1-141-318-11	CAP, VAR, TRIMMER	
		(DIODE)	
D801	8-719-200-82	DIODE 11ES2	
D802	8-719-200-82	DIODE 11ES2	
D803	8-719-110-08	DIODE RD8.2ES-B2	
D807	8-719-109-97	DIODE RD6.8ES-B2	
D808	8-719-109-97	DIODE RD6.8ES-B2	
D809	8-719-109-97	DIODE RD6.8ES-B2	
D812	8-719-109-93	DIODE RD6.2ES-B2	
		(IC)	
IC801	8-752-818-76	IC CXP50116-218Q	
IC802	8-759-510-43	IC PST572C	
IC803	8-759-515-58	IC PST572H	
IC804	1-466-131-21	IC GP1U52X	
IC805	8-759-996-58	IC AK93C46	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

MF-122 MF-142

Ref. No.	Part No.	Description				Remark
		(COIL)				
L802	1-410-316-11	INDUCTOR	1uH			
L803	1-410-316-11	INDUCTOR	1uH			
L805	1-412-488-11	INDUCTOR	1uH			
L806	1-408-397-00	INDUCTOR	1uH			
L808	1-410-316-11	INDUCTOR	1uH			
		(FLUORECENT INDICATOR)				
ND801	1-519-660-11	INDICATOR TUBE, FLUORESCENT				
		(RESISTOR)				
R802	1-249-437-11	CARBON	47K	5%	1/4W	
R803	1-249-425-11	CARBON	4.7K	5%	1/4W	
R804	1-249-425-11	CARBON	4.7K	5%	1/4W	
R805	1-249-425-11	CARBON	4.7K	5%	1/4W	
R806	1-249-425-11	CARBON	4.7K	5%	1/4W	
R807	1-249-425-11	CARBON	4.7K	5%	1/4W	
R808	1-249-425-11	CARBON	4.7K	5%	1/4W	
R809	1-249-425-11	CARBON	4.7K	5%	1/4W	
R810	1-249-425-11	CARBON	4.7K	5%	1/4W	
R811	1-249-418-11	CARBON	1.2K	5%	1/4W	
R812	1-249-420-11	CARBON	1.8K	5%	1/4W	
R813	1-249-437-11	CARBON	47K	5%	1/4W	
R814	1-249-427-11	CARBON	6.8K	5%	1/4W	
R818	1-249-429-11	CARBON	10K	5%	1/4W	
R821	1-249-418-11	CARBON	1.2K	5%	1/4W	
R822	1-249-429-11	CARBON	10K	5%	1/4W	
R824	1-249-425-11	CARBON	4.7K	5%	1/4W	
R825	1-249-425-11	CARBON	4.7K	5%	1/4W	
R826	1-249-425-11	CARBON	4.7K	5%	1/4W	
R827	1-249-417-11	CARBON	1K	5%	1/4W	
R829	1-249-429-11	CARBON	10K	5%	1/4W	
R830	1-249-437-11	CARBON	47K	5%	1/4W	(686HF)
R831	1-249-437-11	CARBON	47K	5%	1/4W	(585HF/589HF)
R832	1-249-437-11	CARBON	47K	5%	1/4W	(585HF:CND/589HF/686HF:CND)
R833	1-249-437-11	CARBON	47K	5%	1/4W	(585HF:US, PX/686HF:US, MX)
R836	1-249-417-11	CARBON	1K	5%	1/4W	
R837	1-249-425-11	CARBON	4.7K	5%	1/4W	
R838	1-249-425-11	CARBON	4.7K	5%	1/4W	
R839	1-249-425-11	CARBON	4.7K	5%	1/4W	
R840	1-249-425-11	CARBON	4.7K	5%	1/4W	
		(SWITCH)				
S801	1-571-977-11	SWITCH, TACTIL (HI-SPEED REWIND)				
S802	1-571-977-11	SWITCH, TACTIL (PAUSE)				

Ref. No.	Part No.	Description				Remark
		(VIBRATOR)				
X802	1-567-098-00	OSCILLATOR, CRYSTAL (32.768MHz)				

****

A-6756-248-B MF-142 BOARD, COMPLETE (585HF/589HF)
****
* A-6756-253-B MF-142 BOARD, COMPLETE (686HF)
****
(Ref.No 5000 Series)

		(CAPACITOR)				
C502	1-162-294-31	CERAMIC	0.001uF	10%	50V	
		(CONNECTOR)				
CN501	1-568-666-11	CONNECTOR, BOARD TO BOARD 12P				
		(JACK)				
CNJ501	1-580-845-11	JACK, PIN 3P (LINE IN2)				
		(DIODE)				
D501	8-719-940-82	LED	SLR34MC3			
D502	8-719-940-82	LED	SLR34MC3			
D504	8-719-109-97	DIODE	RD6.8ES-B2			
		(RESISTOR)				
R502	1-249-418-11	CARBON	1.2K	5%	1/4W	
R503	1-249-420-11	CARBON	1.8K	5%	1/4W	
R504	1-249-423-11	CARBON	3.3K	5%	1/4W	
R505	1-249-404-00	CARBON	82	5%	1/4W	
R513	1-249-427-11	CARBON	6.8K	5%	1/4W	
R514	1-249-401-11	CARBON	47	5%	1/4W	
		(VARIABLE RESISTOR)				
RV501	1-230-819-11	RES, VAR, CARBON 2K				
		(SWITCH)				
S501	1-571-977-11	SWITCH, TACTIL (POWER ON/OFF)				
S502	1-571-977-11	SWITCH, TACTIL (EJECT)				
S503	1-572-907-11	SWITCH, SLIDE (COMMAND MODE)				
S506	1-571-977-11	SWITCH, TACTIL (CL)				

****

Ref. No.	Part No.	Description			Remark
	A-6727-357-B	RP-128 BOARD, COMPLETE (585HF/589HF)			
		**********************			
*	A-6727-361-B	RP-128 BOARD, COMPLETE (686HF)			
		**********************			
		(Ref. No 1000 Series)			
*	1-639-699-12	DQ-6 BOARD			
	3-682-057-11	SPACER (SMALL)			
*	3-941-530-01	CASE, SHIELD, RP			

(CAPACITOR)

Ref. No.	Part No.	Description			Remark
C101	1-126-160-11	ELECT	1uF	20%	50V
C102	1-162-306-11	CERAMIC	0.01uF	20%	16V
C103	1-126-160-11	ELECT	1uF	20%	50V
C104	1-162-306-11	CERAMIC	0.01uF	20%	16V
C105	1-126-160-11	ELECT	1uF	20%	50V
C107	1-162-306-11	CERAMIC	0.01uF	20%	16V
C108	1-124-584-00	ELECT	100uF	20%	10V
C109	1-162-306-11	CERAMIC	0.01uF	20%	16V
C110	1-131-349-00	TANTALUM	2.2uF	10%	35V
C112	1-131-347-00	TANTALUM	1uF	10%	35V
C113	1-162-306-11	CERAMIC	0.01uF	20%	16V
C118	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C119	1-163-116-00	CERAMIC CHIP	91PF	5%	50V
C121	1-163-257-11	CERAMIC CHIP	180PF	5%	50V
C122	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C123	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C801	1-164-159-11	CERAMIC	0.1uF		50V
C802	1-126-154-11	ELECT	47uF	20%	6.3V
C803	1-164-159-11	CERAMIC	0.1uF		50V
C804	1-124-464-11	ELECT	0.22uF	20%	50V
C805	1-162-213-31	CERAMIC	39PF	5%	50V
C806	1-162-213-31	CERAMIC	39PF	5%	50V
C807	1-124-464-11	ELECT	0.22uF	20%	50V
C808	1-164-159-11	CERAMIC	0.1uF		50V
C809	1-164-159-11	CERAMIC	0.1uF		50V
C810	1-124-464-11	ELECT	0.22uF	20%	50V
C811	1-162-213-31	CERAMIC	39PF	5%	50V
C812	1-162-209-31	CERAMIC	27PF	5%	50V
C813	1-124-464-11	ELECT	0.22uF	20%	50V
C814	1-164-159-11	CERAMIC	0.1uF		50V
C815	1-162-209-31	CERAMIC	27PF	5%	50V
C816	1-124-903-11	ELECT	1uF	20%	50V
C817	1-162-306-11	CERAMIC	0.01uF	20%	16V
C818	1-164-096-11	CERAMIC	0.01uF		50V
C819	1-162-289-31	CERAMIC	390PF	10%	50V
C820	1-161-327-00	CERAMIC	0.0033uF	20%	16V
C821	1-164-096-11	CERAMIC	0.01uF		50V
C822	1-164-096-11	CERAMIC	0.01uF		50V
C823	1-102-962-00	CERAMIC	30PF	5%	50V
C824	1-164-096-11	CERAMIC	0.01uF		50V
C825	1-164-070-11	CERAMIC	100PF	5%	50V
C826	1-164-066-11	CERAMIC	68PF	5%	50V
C827	1-102-820-00	CERAMIC	330PF	5%	50V
C828	1-124-126-00	ELECT	47uF	20%	10V
C829	1-162-851-11	CERAMIC	0.1uF	10%	16V
C831	1-126-154-11	ELECT	47uF	20%	6.3V
C832	1-164-159-11	CERAMIC	0.1uF		50V
C833	1-164-095-11	CERAMIC	0.01uF	10%	16V
C834	1-162-851-11	CERAMIC	0.1uF	10%	16V
C835	1-162-306-11	CERAMIC	0.01uF	20%	16V
C836	1-162-306-11	CERAMIC	0.01uF	20%	16V
C838	1-102-935-00	CERAMIC	2.0PF	+-0.25PF	50V
C839	1-162-306-11	CERAMIC	0.01uF	20%	16V
C840	1-162-306-11	CERAMIC	0.01uF	20%	16V
C850	1-162-306-11	CERAMIC	0.01uF	20%	16V (686HF)
C852	1-162-282-31	CERAMIC	100PF	10%	50V (686HF)
C853	1-101-361-00	CERAMIC	150PF	5%	50V (686HF)
C854	1-101-890-00	CERAMIC	75PF	5%	50V (686HF)
C855	1-164-159-11	CERAMIC	0.1uF		50V (686HF)
C856	1-124-907-11	ELECT	10uF	20%	50V (686HF)
C857	1-164-159-11	CERAMIC	0.1uF		50V (686HF)
C859	1-162-306-11	CERAMIC	0.01uF	20%	16V (686HF)

(CONNECTOR)

Ref. No.	Part No.	Description	
CN101	1-506-487-11	CONNECTOR	8P, MALE
* CN801	1-563-590-11	CONNECTOR, FLEXIBLE 13P	
CN802	1-569-338-11	CONNECTOR, BOARD TO BOARD 19P	
* CN804	1-564-031-00	PIN, CONNECTOR 6P	

(DIODE)

Ref. No.	Part No.	Description	
D801	8-719-911-19	DIODE	1SS119
D802	8-719-911-19	DIODE	1SS119
D803	8-719-911-19	DIODE	1SS119

(IC)

Ref. No.	Part No.	Description	
IC101	8-759-421-19	IC	AN3317K
IC801	8-759-320-52	IC	HA118019NT

(COIL)

Ref. No.	Part No.	Description	
L101	1-407-169-XX	INDUCTOR	100uH
L103	1-408-978-21	INDUCTOR	47uH
L104	1-408-985-21	INDUCTOR	180uH
L105	1-408-977-21	INDUCTOR	39uH
L106	1-408-978-21	INDUCTOR	47uH

RP-128 TU-130

Ref. No.	Part No.	Description	Remark
L801	1-408-421-00	INDUCTOR 100uH	
L802	1-408-414-00	INDUCTOR 27uH	
L803	1-408-409-00	INDUCTOR 10uH	
L804	1-408-424-00	INDUCTOR 180uH	
L805	1-408-421-00	INDUCTOR 100uH	
L806	1-408-421-00	INDUCTOR 100uH	
L807	1-408-418-00	INDUCTOR 56uH	
L808	1-408-412-00	INDUCTOR 18uH	
L809	1-408-415-00	INDUCTOR 33uH	
L850	1-408-968-21	INDUCTOR 6. 8uH (686HF)	
L851	1-408-421-00	INDUCTOR 100uH (686HF)	
		(CONNECTOR)	
* LP101	1-573-234-11	PIN, CONNECTOR (PC BOARD) 1P	
* LP102	1-573-234-11	PIN, CONNECTOR (PC BOARD) 1P	
		(TRANSISTOR)	
Q801	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q802	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q803	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q804	8-729-900-89	TRANSISTOR DTC144ES	
Q805	8-729-900-89	TRANSISTOR DTC144ES	
Q806	8-729-900-89	TRANSISTOR DTC144ES	
Q807	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q850	8-729-113-31	TRANSISTOR 2SB733-2 (686HF)	
Q851	8-729-900-80	TRANSISTOR DTC114ES (686HF)	
Q852	8-729-119-76	TRANSISTOR 2SA1175-HFE (686HF)	
Q853	8-729-119-76	TRANSISTOR 2SA1175-HFE (686HF)	
Q854	8-729-900-89	TRANSISTOR DTC144ES (686HF)	
		(RESISTOR)	
R101	1-249-393-11	CARBON 10 5% 1/4W	
R102	1-249-393-11	CARBON 10 5% 1/4W	
R103	1-249-410-11	CARBON 270 5% 1/4W	
R104	1-249-409-11	CARBON 220 5% 1/4W	
R105	1-249-410-11	CARBON 270 5% 1/4W	
R106	1-249-435-11	CARBON 33K 5% 1/4W	
R107	1-249-426-11	CARBON 5. 6K 5% 1/4W	
R110	1-249-432-11	CARBON 18K 5% 1/4W	
R111	1-249-435-11	CARBON 33K 5% 1/4W	
R112	1-249-435-11	CARBON 33K 5% 1/4W	
R113	1-216-045-00	METAL CHIP 680 5% 1/10W	
R114	1-216-045-00	METAL CHIP 680 5% 1/10W	
R801	1-249-408-11	CARBON 180 5% 1/4W	
R802	1-249-408-11	CARBON 180 5% 1/4W	
R803	1-249-405-11	CARBON 100 5% 1/4W	
R804	1-249-405-11	CARBON 100 5% 1/4W	
R805	1-249-432-11	CARBON 18K 5% 1/4W	
R806	1-247-895-00	CARBON 470K 5% 1/4W	
R807	1-249-429-11	CARBON 10K 5% 1/4W	

Ref. No.	Part No.	Description	Remark
R808	1-249-429-11	CARBON 10K 5% 1/4W	
R809	1-249-433-11	CARBON 22K 5% 1/4W	
R810	1-249-429-11	CARBON 10K 5% 1/4W	
R811	1-249-417-11	CARBON 1K 5% 1/4W	
R812	1-249-421-11	CARBON 2. 2K 5% 1/4W	
R813	1-249-421-11	CARBON 2. 2K 5% 1/4W	
R814	1-249-412-11	CARBON 390 5% 1/4W	
R815	1-249-412-11	CARBON 390 5% 1/4W	
R816	1-249-416-11	CARBON 820 5% 1/4W	
R817	1-249-426-11	CARBON 5. 6K 5% 1/4W	
R818	1-249-421-11	CARBON 2. 2K 5% 1/4W	
R819	1-249-413-11	CARBON 470 5% 1/4W	
R820	1-249-415-11	CARBON 680 5% 1/4W	
R821	1-249-414-11	CARBON 560 5% 1/4W	
R822	1-249-417-11	CARBON 1K 5% 1/4W	
R823	1-249-416-11	CARBON 820 5% 1/4W	
R824	1-249-418-11	CARBON 1. 2K 5% 1/4W	
R826	1-247-893-11	CARBON 390K 5% 1/4W	
R827	1-249-417-11	CARBON 1K 5% 1/4W	
R828	1-249-420-11	CARBON 1. 8K 5% 1/4W	
R829	1-249-420-11	CARBON 1. 8K 5% 1/4W	
R830	1-249-429-11	CARBON 10K 5% 1/4W	
R831	1-249-429-11	CARBON 10K 5% 1/4W	
R832	1-249-419-11	CARBON 1. 5K 5% 1/4W	
R833	1-249-417-11	CARBON 1K 5% 1/4W	
R834	1-249-433-11	CARBON 22K 5% 1/4W	
R835	1-249-435-11	CARBON 33K 5% 1/4W	
R836	1-249-417-11	CARBON 1K 5% 1/4W	
R838	1-249-405-11	CARBON 100 5% 1/4W	
R850	1-249-435-11	CARBON 33K 5% 1/4W	(686HF)
R851	1-249-405-11	CARBON 100 5% 1/4W	(686HF)
R852	1-249-417-11	CARBON 1K 5% 1/4W	(686HF)
R853	1-249-415-11	CARBON 680 5% 1/4W	(686HF)
R854	1-249-437-11	CARBON 47K 5% 1/4W	(686HF)
R855	1-249-439-11	CARBON 68K 5% 1/4W	(686HF)
R856	1-249-436-11	CARBON 39K 5% 1/4W	(686HF)
R857	1-249-432-11	CARBON 18K 5% 1/4W	(686HF)
R858	1-249-437-11	CARBON 47K 5% 1/4W	(686HF)
		(VARIABLE RESISTOR)	
RV801	1-241-120-11	RES, ADJ, CARBON 2. 2K	

** ********

* A-6754-238-A TU-130 BOARD, COMPLETE

****

(Ref. No 5000 Series)

3-710-578-01 COVER, 6 MOLD VOLUME

Ref. No.	Part No.	Description			Remark
		(CAPACITOR)			
C001	1-124-589-11	ELECT	47uF	20%	16V
C002	1-126-163-11	ELECT	4.7uF	20%	50V
C003	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C004	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C005	1-126-101-11	ELECT	100uF	20%	16V
C007	1-163-108-00	CERAMIC CHIP	43PF	5%	50V
C008	1-163-108-00	CERAMIC CHIP	43PF	5%	50V
C011	1-163-016-00	CERAMIC CHIP	0.0039uF	10%	50V
C012	1-163-016-00	CERAMIC CHIP	0.0039uF	10%	50V
C014	1-124-126-00	ELECT	47uF	20%	10V
C016	1-124-126-00	ELECT	47uF	20%	10V
C019	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C020	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C021	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C022	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C023	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C024	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C025	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C026	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C027	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C028	1-163-091-00	CERAMIC CHIP	8PF		50V
C029	1-124-443-00	ELECT	100uF	20%	10V
C030	1-124-907-11	ELECT	10uF	20%	50V
C031	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C032	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C033	1-124-126-00	ELECT	47uF	20%	10V
C034	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C035	1-124-250-00	ELECT	0.15uF	20%	50V
C036	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C037	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C038	1-124-903-11	ELECT	1uF	20%	50V
C039	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C040	1-124-126-00	ELECT	47uF	20%	10V
C041	1-124-902-00	ELECT	0.47uF	20%	50V
C043	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C044	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C045	1-124-907-11	ELECT	10uF	20%	50V
C046	1-124-126-00	ELECT	47uF	20%	10V
C070	1-136-154-00	MYLAR	0.012uF	10%	50V
C071	1-130-480-00	MYLAR	0.0056uF	5%	50V
C072	1-124-252-00	ELECT	0.33uF	20%	50V
C073	1-124-907-11	ELECT	10uF	20%	50V
C074	1-124-907-11	ELECT	10uF	20%	50V
C075	1-130-476-00	MYLAR	0.0027uF	5%	50V
C076	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C077	1-124-907-11	ELECT	10uF	20%	50V
C078	1-131-365-00	TANTALUM	10uF	10%	20V
C079	1-124-903-11	ELECT	1uF	20%	50V
C080	1-131-368-00	TANTALUM	3.3uF	10%	16V

Ref. No.	Part No.	Description			Remark
C081	1-124-907-11	ELECT	10uF	20%	50V
C082	1-124-907-11	ELECT	10uF	20%	50V
C083	1-163-075-00	CERAMIC CHIP	0.047uF		50V
C084	1-124-927-11	ELECT	4.7uF	20%	100V
C085	1-124-902-00	ELECT	0.47uF	20%	50V
C086	1-124-903-11	ELECT	1uF	20%	50V
C087	1-126-157-11	ELECT	10uF	20%	16V
C088	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C089	1-126-162-11	ELECT	3.3uF	20%	50V
C090	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C091	1-124-907-11	ELECT	10uF	20%	50V
C092	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C098	1-126-233-11	ELECT	22uF	20%	50V
		(FILTER)			
CF001	1-577-559-11	FILTER, CERAMIC			
CF002	1-409-332-00	CERAMIC TRAP			
CF003	1-527-943-00	FILTER, CERAMIC			
		(CONNECTOR)			
* CN001	1-569-796-11	SOCKET, CONNECTOR 12P			
* CN002	1-569-796-11	SOCKET, CONNECTOR 12P			
		(DIODE)			
⚠D001	8-719-110-78	DIODE	RD33ES-B2		
D005	8-719-104-34	DIODE	1S2836		
D006	8-719-104-34	DIODE	1S2836		
D007	8-719-800-76	DIODE	1SS226		
		(IC)			
IC001	8-759-630-93	IC	M51362SP		
IC002	8-752-035-71	IC	CXA1124AS		
IC003	8-759-981-64	IC	LM2903DQ		
		(JUMPER RESISTOR)			
JR002	1-216-296-00	METAL CHIP	0	5%	1/8W
JR004	1-216-295-00	METAL CHIP	0	5%	1/10W
JR006	1-216-296-00	METAL CHIP	0	5%	1/8W
JR007	1-216-296-00	METAL CHIP	0	5%	1/8W
JR008	1-216-295-00	METAL CHIP	0	5%	1/10W
JR009	1-216-296-00	METAL CHIP	0	5%	1/8W
JR010	1-216-296-00	METAL CHIP	0	5%	1/8W
JR011	1-216-296-00	METAL CHIP	0	5%	1/8W
JR012	1-216-296-00	METAL CHIP	0	5%	1/8W
JR013	1-216-295-00	METAL CHIP	0	5%	1/10W
JR014	1-216-296-00	METAL CHIP	0	5%	1/8W
JR015	1-216-296-00	METAL CHIP	0	5%	1/8W
JR016	1-216-295-00	METAL CHIP	0	5%	1/10W
JR017	1-216-295-00	METAL CHIP	0	5%	1/10W
JR018	1-216-296-00	METAL CHIP	0	5%	1/8W

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

TU-130

Ref. No.	Part No.	Description				Remark
JR019	1-216-296-00	METAL CHIP	0	5%	1/8W	
JR020	1-216-296-00	METAL CHIP	0	5%	1/8W	
JR021	1-216-295-00	METAL CHIP	0	5%	1/10W	
JR022	1-216-295-00	METAL CHIP	0	5%	1/10W	
JR023	1-216-296-00	METAL CHIP	0	5%	1/8W	
JR024	1-216-295-00	METAL CHIP	0	5%	1/10W	
JR025	1-216-296-00	METAL CHIP	0	5%	1/8W	
JR026	1-216-296-00	METAL CHIP	0	5%	1/8W	
JR027	1-216-295-00	METAL CHIP	0	5%	1/10W	
JR028	1-216-296-00	METAL CHIP	0	5%	1/8W	
JR029	1-216-296-00	METAL CHIP	0	5%	1/8W	
JR030	1-216-296-00	METAL CHIP	0	5%	1/8W	
JR031	1-216-295-00	METAL CHIP	0	5%	1/10W	

(COIL)

Ref. No.	Part No.	Description				Remark
L001	1-408-409-00	INDUCTOR	10uH			
L002	1-410-971-11	INDUCTOR	10uH			
L003	1-408-413-00	INDUCTOR	22uH			
L004	1-408-409-00	INDUCTOR	10uH			
L005	1-408-409-00	INDUCTOR	10uH			
L006	1-410-787-31	INDUCTOR	0.33uH			
L007	1-410-316-11	INDUCTOR	1uH			
L008	1-410-972-11	INDUCTOR	15uH			
L010	1-410-971-11	INDUCTOR	10uH			
L011	1-410-971-11	INDUCTOR	10uH			
L098	1-412-292-11	INDUCTOR	1.2uH			

(IC LINK)

Ref. No.	Part No.	Description				Remark
⚠PS001	1-532-679-00	LINK, IC (ICP-N15) 0.6A				

(TRANSISTOR)

Ref. No.	Part No.	Description				Remark
Q001	8-729-173-38	TRANSISTOR	2SA733-K			
Q002	8-729-901-01	TRANSISTOR	DTC144EK			
Q005	8-729-822-90	TRANSISTOR	2SC3779C			
Q006	8-729-822-90	TRANSISTOR	2SC3779C			
Q007	8-729-920-74	TRANSISTOR	2SC2412K-QR			
Q008	8-729-920-74	TRANSISTOR	2SC2412K-QR			
Q009	8-729-920-74	TRANSISTOR	2SC2412K-QR			
Q070	8-729-920-74	TRANSISTOR	2SC2412K-QR			
Q071	8-729-901-01	TRANSISTOR	DTC144EK			

(RESISTOR)

Ref. No.	Part No.	Description				Remark
R001	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R002	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R003	1-216-037-00	METAL CHIP	330	5%	1/10W	
R004	1-216-035-00	METAL CHIP	270	5%	1/10W	
R005	1-216-025-00	METAL CHIP	100	5%	1/10W	
R006	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R008	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R009	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R010	1-216-033-00	METAL CHIP	220	5%	1/10W	
R012	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R013	1-216-063-00	METAL CHIP	3.9K	5%	1/10W	
R014	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R015	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R016	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R018	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R019	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R020	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R023	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R025	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R029	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R030	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	
R031	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R032	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R033	1-216-017-00	METAL CHIP	47	5%	1/10W	
R034	1-216-105-00	METAL CHIP	220K	5%	1/10W	
R035	1-216-105-00	METAL CHIP	220K	5%	1/10W	
R036	1-216-063-00	METAL CHIP	3.9K	5%	1/10W	
R038	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R039	1-216-043-00	METAL CHIP	560	5%	1/10W	
R040	1-216-025-00	METAL CHIP	100	5%	1/10W	
R041	1-216-037-00	METAL CHIP	330	5%	1/10W	
R042	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	
R043	1-216-037-00	METAL CHIP	330	5%	1/10W	
R044	1-216-037-00	METAL CHIP	330	5%	1/10W	
R046	1-216-119-00	METAL CHIP	820K	5%	1/10W	
R047	1-216-037-00	METAL CHIP	330	5%	1/10W	
R048	1-216-063-00	METAL CHIP	3.9K	5%	1/10W	
R049	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R050	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
R051	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R053	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R054	1-216-029-00	METAL CHIP	150	5%	1/10W	
R055	1-216-039-00	METAL CHIP	390	5%	1/10W	
R056	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R057	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R058	1-216-037-00	METAL CHIP	330	5%	1/10W	
R059	1-216-037-00	METAL CHIP	330	5%	1/10W	
R060	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R061	1-216-047-00	METAL CHIP	820	5%	1/10W	
R062	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	
R063	1-216-021-00	METAL CHIP	68	5%	1/10W	
R064	1-216-025-00	METAL CHIP	100	5%	1/10W	
R065	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	
R070	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R071	1-216-121-00	METAL CHIP	1M	5%	1/10W	
R072	1-216-690-11	METAL CHIP	43K	0.5%	1/10W	
R073	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R074	1-216-063-00	METAL CHIP	3.9K	5%	1/10W	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
R075	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R076	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R077	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R078	1-216-117-00	METAL CHIP 680K 5% 1/10W	
R079	1-216-691-11	METAL CHIP 47K 0.5% 1/10W	
R080	1-216-691-11	METAL CHIP 47K 0.5% 1/10W	
R081	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R082	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R083	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R084	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R085	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R086	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R087	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R089	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R098	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
R099	1-216-079-00	METAL CHIP 18K 5% 1/10W	

(VARIABLE RESISTOR)

Ref. No.	Part No.	Description	Remark
RV001	1-241-630-11	RES, ADJ, CARBON 10K	
RV002	1-241-079-11	RES, ADJ, CARBON 4.7K	
RV070	1-228-993-00	RES, ADJ, METAL 4.7K	
RV071	1-228-995-00	RES, ADJ, METAL 22K	
RV072	1-228-996-00	RES, ADJ, METAL 47K	
RV073	1-241-630-11	RES, ADJ, CARBON 10K	

(SWITCH)

Ref. No.	Part No.	Description	Remark
SWF001	1-404-971-11	FILTER, SURFACE WAVE	

(COIL)

Ref. No.	Part No.	Description	Remark
T001	1-404-749-11	COIL	
T002	1-404-802-11	COIL	
T003	1-404-752-11	COIL	
T004	1-404-744-11	COIL, IF	

(TUNER)

Ref. No.	Part No.	Description	Remark
⚠TU001	1-465-239-11	TUNER, ET (BTP-2A401)	

****

A-6754-372-B YC-112 BOARD, COMPLETE

****

(Ref.No 2000 Series)

3-729-971-01 COVER, VOLUME

(CAPACITOR)

Ref. No.	Part No.	Description	Remark
C001	1-163-113-00	CERAMIC CHIP 68PF 5% 50V	
C002	1-163-129-00	CERAMIC CHIP 330PF 5% 50V	
C004	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C005	1-124-126-00	ELECT 47uF 20% 10V	
C006	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C007	1-124-927-11	ELECT 4.7uF 20% 100V	
C008	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C009	1-126-157-11	ELECT 10uF 20% 16V	
C010	1-124-925-11	ELECT 2.2uF 20% 100V	
C012	1-124-902-00	ELECT 0.47uF 20% 50V	
C013	1-124-907-11	ELECT 10uF 20% 50V	
C014	1-164-157-11	CERAMIC CHIP 0.068uF 10% 25V	
C015	1-163-106-00	CERAMIC CHIP 36PF 5% 50V	
C016	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C017	1-163-115-00	CERAMIC CHIP 82PF 5% 50V	
C018	1-163-105-00	CERAMIC CHIP 33PF 5% 50V	
C019	1-124-257-00	ELECT 2.2uF 20% 50V	
C020	1-124-465-00	ELECT 0.47uF 20% 50V	
C021	1-163-097-00	CERAMIC CHIP 15PF 5% 50V	
C022	1-163-099-00	CERAMIC CHIP 18PF 5% 50V	
C023	1-163-139-00	CERAMIC CHIP 820PF 5% 50V	
C024	1-124-925-11	ELECT 2.2uF 20% 100V	
C025	1-126-233-11	ELECT 22uF 20% 50V	
C026	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C027	1-124-126-00	ELECT 47uF 20% 10V	
C028	1-124-443-00	ELECT 100uF 20% 10V	
C029	1-126-233-11	ELECT 22uF 20% 50V	
C030	1-163-137-00	CERAMIC CHIP 680PF 5% 50V	
C032	1-163-115-00	CERAMIC CHIP 82PF 5% 50V	
C033	1-163-109-00	CERAMIC CHIP 47PF 5% 50V	
C034	1-163-105-00	CERAMIC CHIP 33PF 5% 50V	
C035	1-163-110-00	CERAMIC CHIP 51PF 5% 50V	
C037	1-163-113-00	CERAMIC CHIP 68PF 5% 50V	
C038	1-163-102-00	CERAMIC CHIP 24PF 5% 50V	
C039	1-163-115-00	CERAMIC CHIP 82PF 5% 50V	
C040	1-163-102-00	CERAMIC CHIP 24PF 5% 50V	
C041	1-124-126-00	ELECT 47uF 20% 10V	
C042	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C043	1-126-301-11	ELECT 1uF 20% 50V	
C044	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C045	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C046	1-163-081-00	CERAMIC CHIP 0.22uF 25V	
C047	1-124-927-11	ELECT 4.7uF 20% 100V	
C048	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C049	1-124-903-11	ELECT 1uF 20% 50V	
C050	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C051	1-124-903-11	ELECT 1uF 20% 50V	
C052	1-135-149-21	TANTALUM CHIP 2.2uF 20% 10V	
C053	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V	
C054	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C055	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C058	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C059	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C060	1-124-126-00	ELECT 47uF 20% 10V	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifi

YC-112

Ref. No.	Part No.	Description			Remark
C062	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C063	1-124-907-11	ELECT	10uF	20%	50V
C064	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C068	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C069	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C070	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C071	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C073	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C074	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C076	1-124-126-00	ELECT	47uF	20%	10V
C077	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C078	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C079	1-126-301-11	ELECT	1uF	20%	50V
C081	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C082	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C083	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C101	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C102	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C103	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C104	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V

〈 CONNECTOR 〉

Ref. No.	Part No.	Description	Remark
* CN001	1-563-258-11	SOCKET, CONNECTOR 15P	
* CN002	1-568-715-11	SOCKET, CONNECTOR 7P	

〈 DIODE 〉

Ref. No.	Part No.	Description		Remark
D001	8-719-400-18	DIODE	MA152WK	
D002	8-719-400-18	DIODE	MA152WK	
D003	8-719-400-18	DIODE	MA152WK	
D004	8-719-400-18	DIODE	MA152WK	
D005	8-719-400-18	DIODE	MA152WK	
D008	8-719-200-82	DIODE	11ES2	
D009	8-719-400-18	DIODE	MA152WK	
D010	8-719-400-18	DIODE	MA152WK	
D102	8-719-400-18	DIODE	MA152WK	

〈 DELAY LINE 〉

Ref. No.	Part No.	Description	Remark
DL001	1-415-668-11	DELAY LINE, ULTRASONIC	
DL001	1-415-668-31	DELAY LINE, ULTRASONIC	
DL001	1-415-668-11	DELAY LINE, ULTRASONIC	

〈 FILTER 〉

Ref. No.	Part No.	Description	Remark
FL001	1-236-488-21	L.P.F	
FL002	1-236-489-11	B.P.F	

〈 IC 〉

Ref. No.	Part No.	Description		Remark
IC001	8-759-821-62	IC	LA7326	
IC002	8-759-821-87	IC	LA7316AN	
IC003	8-759-821-50	IC	LC8991	
IC004	8-759-938-15	IC	BA178M05	

〈 JUMPER RESISTOR 〉

Ref. No.	Part No.	Description			Remark
JR001	1-216-295-00	METAL CHIP	0	5%	1/10W
JR002	1-216-295-00	METAL CHIP	0	5%	1/10W
JR003	1-216-295-00	METAL CHIP	0	5%	1/10W
JR004	1-216-296-00	METAL CHIP	0	5%	1/8W
JR005	1-216-295-00	METAL CHIP	0	5%	1/10W
JR006	1-216-295-00	METAL CHIP	0	5%	1/10W
JR007	1-216-295-00	METAL CHIP	0	5%	1/10W
JR008	1-216-295-00	METAL CHIP	0	5%	1/10W
JR009	1-216-296-00	METAL CHIP	0	5%	1/8W
JR010	1-216-295-00	METAL CHIP	0	5%	1/10W
JR011	1-216-296-00	METAL CHIP	0	5%	1/8W
JR012	1-216-296-00	METAL CHIP	0	5%	1/8W
JR013	1-216-296-00	METAL CHIP	0	5%	1/8W
JR014	1-216-296-00	METAL CHIP	0	5%	1/8W
JR015	1-216-296-00	METAL CHIP	0	5%	1/8W
JR016	1-216-296-00	METAL CHIP	0	5%	1/8W
JR017	1-216-296-00	METAL CHIP	0	5%	1/8W
JR018	1-216-295-00	METAL CHIP	0	5%	1/10W
JR019	1-216-295-00	METAL CHIP	0	5%	1/10W
JR020	1-216-296-00	METAL CHIP	0	5%	1/8W
JR021	1-216-295-00	METAL CHIP	0	5%	1/10W
JR022	1-216-295-00	METAL CHIP	0	5%	1/10W
JR023	1-216-295-00	METAL CHIP	0	5%	1/10W
JR024	1-216-295-00	METAL CHIP	0	5%	1/10W
JR025	1-216-296-00	METAL CHIP	0	5%	1/8W
JR026	1-216-295-00	METAL CHIP	0	5%	1/10W
JR027	1-216-296-00	METAL CHIP	0	5%	1/8W
JR028	1-216-295-00	METAL CHIP	0	5%	1/10W
JR029	1-216-295-00	METAL CHIP	0	5%	1/10W
JR030	1-216-295-00	METAL CHIP	0	5%	1/10W
JR031	1-216-295-00	METAL CHIP	0	5%	1/10W
JR032	1-216-296-00	METAL CHIP	0	5%	1/8W
JR033	1-216-296-00	METAL CHIP	0	5%	1/8W
JR034	1-216-296-00	METAL CHIP	0	5%	1/8W
JR035	1-216-295-00	METAL CHIP	0	5%	1/10W
JR036	1-216-296-00	METAL CHIP	0	5%	1/8W
JR037	1-216-296-00	METAL CHIP	0	5%	1/8W
JR038	1-216-296-00	METAL CHIP	0	5%	1/8W
JR039	1-216-295-00	METAL CHIP	0	5%	1/10W
JR040	1-216-295-00	METAL CHIP	0	5%	1/10W
JR041	1-216-295-00	METAL CHIP	0	5%	1/10W
JR045	1-216-295-00	METAL CHIP	0	5%	1/10W
JR101	1-216-296-00	METAL CHIP	0	5%	1/8W
JR102	1-216-295-00	METAL CHIP	0	5%	1/10W
JR103	1-216-295-00	METAL CHIP	0	5%	1/10W
JR104	1-216-295-00	METAL CHIP	0	5%	1/10W
JR142	1-216-295-00	METAL CHIP	0	5%	1/10W

(COIL)

Ref. No.	Part No.	Description		Remark
L001	1-412-318-11	INDUCTOR	180uH	
L005	1-410-975-11	INDUCTOR	47uH	
L006	1-408-424-00	INDUCTOR	180uH	
L007	1-410-978-11	INDUCTOR	150uH	
L008	1-410-509-11	INDUCTOR	10uH	
L009	1-410-516-11	INDUCTOR	39uH	
L011	1-408-421-00	INDUCTOR	100uH	
L012	1-410-976-11	INDUCTOR	68uH	
L013	1-410-976-11	INDUCTOR	68uH	
L015	1-410-516-11	INDUCTOR	39uH	
L101	1-410-437-11	INDUCTOR	330uH	
L102	1-410-435-21	INDUCTOR	220uH	

(TRANSISTOR)

Ref. No.	Part No.	Description		Remark
Q001	8-729-901-06	TRANSISTOR	DTA144EK	
Q002	8-729-230-49	TRANSISTOR	2SC2712-YG	
Q003	8-729-901-01	TRANSISTOR	DTC144EK	
Q004	8-729-305-25	TRANSISTOR	2SA1052-C	
Q005	8-729-305-25	TRANSISTOR	2SA1052-C	
Q006	8-729-901-47	TRANSISTOR	DTA143EK	
Q007	8-729-230-49	TRANSISTOR	2SC2712-YG	
Q008	8-729-230-49	TRANSISTOR	2SC2712-YG	
Q009	8-729-230-49	TRANSISTOR	2SC2712-YG	
Q010	8-729-230-49	TRANSISTOR	2SC2712-YG	
Q011	8-729-305-25	TRANSISTOR	2SA1052-C	
Q012	8-729-305-25	TRANSISTOR	2SA1052-C	
Q015	8-729-230-49	TRANSISTOR	2SC2712-YG	
Q019	8-729-620-06	TRANSISTOR	2SC3052-EF	
Q022	8-729-305-25	TRANSISTOR	2SA1052-C	
Q023	8-729-620-06	TRANSISTOR	2SC3052-EF	
Q102	8-729-900-53	TRANSISTOR	DTC114EK	

(RESISTOR)

Ref. No.	Part No.	Description				Remark
R001	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R003	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R004	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R005	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R006	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R007	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R008	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R009	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R010	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R011	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R012	1-216-101-00	METAL CHIP	150K	5%	1/10W	
R013	1-216-105-00	METAL CHIP	220K	5%	1/10W	
R014	1-216-051-00	METAL CHIP	1.2K	5%	1/10W	
R015	1-216-047-00	METAL CHIP	820	5%	1/10W	
R016	1-216-043-00	METAL CHIP	560	5%	1/10W	
R017	1-216-052-00	METAL CHIP	1.3K	5%	1/10W	
R018	1-216-036-00	METAL CHIP	300	5%	1/10W	
R019	1-216-068-00	METAL CHIP	6.2K	5%	1/10W	
R020	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R021	1-216-121-00	METAL CHIP	1M	5%	1/10W	
R022	1-216-041-00	METAL CHIP	470	5%	1/10W	
R023	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R024	1-216-121-00	METAL CHIP	1M	5%	1/10W	
R025	1-216-121-00	METAL CHIP	1M	5%	1/10W	
R026	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R027	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R028	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R029	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R030	1-216-045-00	METAL CHIP	680	5%	1/10W	
R031	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R032	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R033	1-216-748-11	METAL CHIP	39K	1%	1/10W	
R034	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R035	1-216-037-00	METAL CHIP	330	5%	1/10W	
R036	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R037	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R038	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R039	1-216-043-00	METAL CHIP	560	5%	1/10W	
R040	1-216-043-00	METAL CHIP	560	5%	1/10W	
R041	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R043	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R044	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R045	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R046	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R047	1-216-039-00	METAL CHIP	390	5%	1/10W	
R048	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R049	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R051	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R052	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	
R055	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R059	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R060	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R061	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R066	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R067	1-216-041-00	METAL CHIP	470	5%	1/10W	
R069	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R070	1-216-063-00	METAL CHIP	3.9K	5%	1/10W	
R071	1-216-051-00	METAL CHIP	1.2K	5%	1/10W	
R072	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R073	1-216-103-00	METAL CHIP	180K	5%	1/10W	
R074	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R075	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R076	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R082	1-216-063-00	METAL CHIP	3.9K	5%	1/10W	
R083	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	

YC-112

Ref. No.	Part No.	Description				Remark
R085	1-216-043-00	METAL CHIP	560	5%	1/10W	
R086	1-216-025-00	METAL CHIP	100	5%	1/10W	
R088	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
R089	1-216-041-00	METAL CHIP	470	5%	1/10W	
R098	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	
R099	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R100	1-216-047-00	METAL CHIP	820	5%	1/10W	
R102	1-216-063-00	METAL CHIP	3.9K	5%	1/10W	
R103	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	
		(VARIABLE RESISTOR)				
RV002	1-238-166-11	RES, ADJ, CARBON 1K				
RV003	1-230-523-11	RES, ADJ, METAL 10K				
RV004	1-237-723-11	RES, ADJ, CARBON 4.7K				
RV005	1-237-723-11	RES, ADJ, CARBON 4.7K				
RV006	1-238-166-11	RES, ADJ, CARBON 1K				
RV007	1-238-166-11	RES, ADJ, CARBON 1K				
		(VIBRATOR)				
X001	1-577-380-11	VIBRATOR, CRYSTAL (3.58MHz)				

****

MISCELLANEOUS
****

Ref. No.	Part No.	Description	Remark
13	1-466-497-21	SWITCH BLOCK, CONTROL (585HF)	
13	1-466-497-31	SWITCH BLOCK, CONTROL (686HF)	
13	1-466-497-51	SWITCH BLOCK, CONTROL (589HF)	
19	1-572-662-11	SWITCH, ROTARY (DUAL MODE SHUTTLE)	
⚠51	1-413-648-11	POWER BLOCK (SWITCHING BLOCK) (585HF;PX)	
⚠51	1-413-650-11	POWER BLOCK (SWITCHING BLOCK)	(EXCEPT 585HF;PX)
260	1-543-647-11	HEAD, FE	
264	8-848-553-01	DRUM ASSY, ROTARY UPPER(DZR-28-R) (686HF)	
264	8-848-555-01	DRUM ASSY, ROTARY UPPER(DZR-37-R)	(EXCEPT 686HF)
267	A-6761-129-C	HEAD BLOCK ASSY, ACE	
D001	8-719-985-00	DIODE GL451VS1 (LED)	
⚠M901	8-848-552-11	DRUM ASSY (DZH-28A-R) (686HF)	
⚠M901	8-848-554-01	DRUM ASSY (DZH-37A-R) (EXCEPT 686HF)	
M902	8-835-394-11	MOTOR, DC U-26F (CAPSTAN)	
M903	X-3733-302-1	MOTOR ASSY, CAM	
M904	X-3727-784-1	MOTOR ASSY (LOADING)	
Q001	8-729-926-31	PHOTO TRANSISTOR PT483F1S	
Q002	8-729-926-31	PHOTO TRANSISTOR PT483F1S	
S001	1-692-062-11	SWITCH, ROTARY	

****

ACCESSORIES & PACKING MATERIALS
****

Ref. No.	Part No.	Description	Remark
	1-417-139-11	MATCHING TRANSFORMER, ANTENNA	
	1-465-770-11	REMOTE COMMANDER (RMT-V102A) (686HF)	
	1-465-770-21	REMOTE COMMANDER (RMT-V102) (585HF)	
	1-465-862-11	REMOTE COMMANDER (RMT-V112) (589HF)	
	1-558-076-41	CORD, CONNECTION	
⚠	1-569-008-11	ADAPTER CONVERSION 2P (585HF;PX)	
⚠	1-574-085-11	CORD, POWER (585HF;US,CND/686HF/589HF)	
⚠	1-575-131-11	CORD, POWER (585HF;PX)	
	1-575-334-11	CORD, CONNECTION	
	3-701-625-00	BAG, POLYETHYLENE	
	3-752-868-21	MANUAL, INSTRUCTION (ENGLISH)	
	3-752-868-31	MANUAL, INSTRUCTION (FRENCH)	(585HF;CND/686HF;CND/589HF)
	3-752-868-41	MANUAL, INSTRUCTION (SPANISH)	(686HF;MX)
	3-753-871-31	INSTRUCTION (589HF)	
*	3-795-581-21	SAFEGUARD (SONY), IMPORTANT	(585HF;US/686HF;US)
*	3-941-533-01	CUSHION (UPPER)	
*	3-941-534-01	CUSHION (LOWER)	
*	3-941-538-01	INDIVIDUAL CARTON (585HF)	
*	3-941-538-11	INDIVIDUAL CARTON (686HF)	
*	3-944-222-01	INDIVIDUAL CARTON (589HF)	

****

****
HARDWARE LIST
****

#1	7-685-647-79	SCREW +BVTP	3X10 TYPE2 IT-3
#2	7-685-648-79	SCREW +BVTP	3X12 TYPE2 IT-3
#3	7-685-646-79	SCREW +BVTP	3X8 TYPE2 IT-3
#4	7-682-546-04	SCREW +P 3X5	
#5	7-682-645-01	SCREW +PS 3X4	
#6	7-621-732-08	SET-SCT, HEX. 2X3 FLAT POINT	
#7	7-682-547-04	SCREW +P 3X6	
#8	7-682-548-04	SCREW +P 3X8	
#9	7-628-254-00	SCREW +PS 2.6X5	
#10	7-627-552-08	SCREW, PRECISION +P 1.7X2.5	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

9-973-127-82

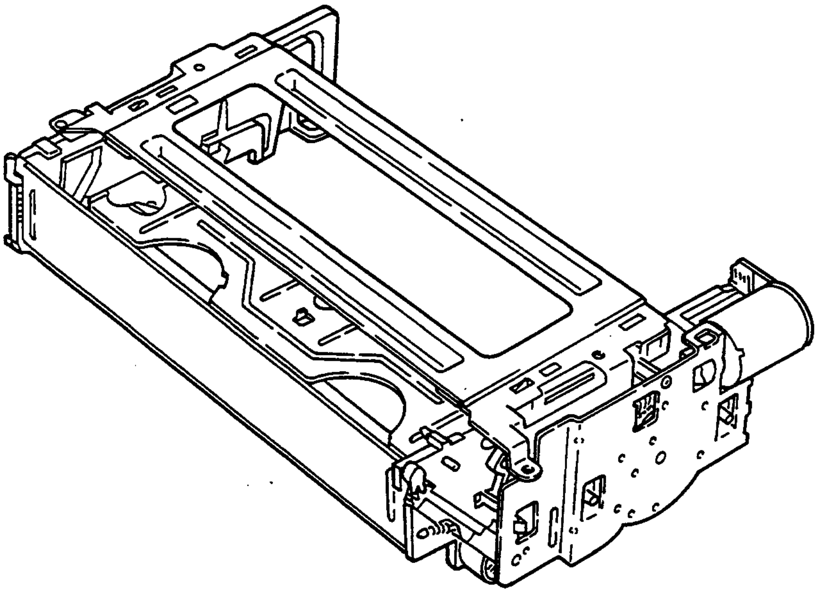
Sony Corporation
Home Video Group

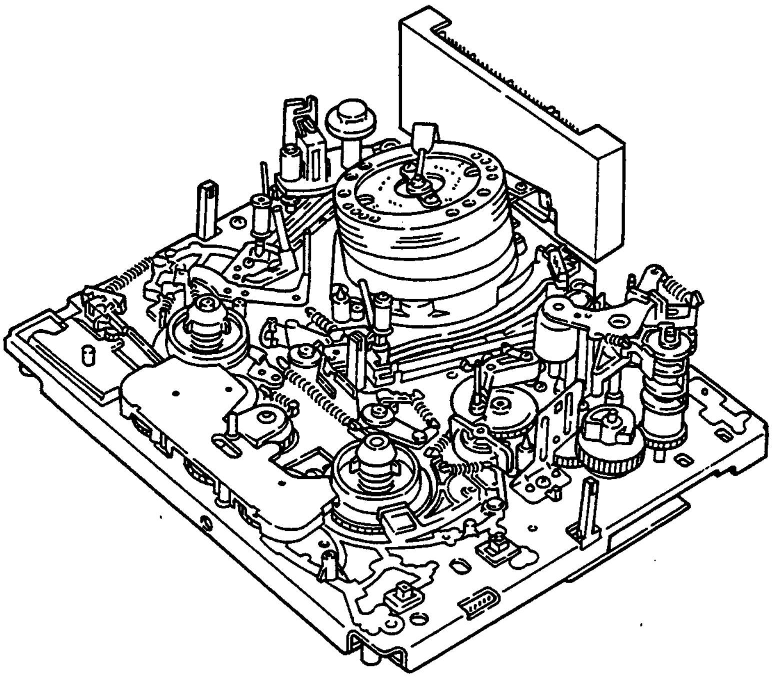
English
92F0938-1
Printed in Japan
© 1992. 6
Published by Customer Relations and Service Group

VIDE-V12926

VHS MECHANICAL ADJUSTMENT MANUAL II

- Please use in conjunction with the SERVICE MANUAL.
- This VHS MECHANICAL ADJUSTMENT MANUAL II can be used for NTSC system and PAL system.





VHS VIDEO RECORDER

SONY®

MICROFILM

TABLE OF CONTENTS

Section *Title* *Page*

1. PREPARATIONS FOR CHECKS, ADJUSTMENTS AND REPLACEMENT OF THE DECK MECHANISM

1-1. Loading and unloading video cassettes with the power off 3
  1-1-1. Manual loading and unloading 3
  1-1-2. Loading and unloading using a separate power source 3
1-2. Threading and unthreading with the power off 3
  1-2-1. Manual threading and unthreading 3
  1-2-2. Threading and unthreading using a separate power source 3
1-3. To complete threading with the FL cassette controller removed 4

2. PERIODICAL INSPECTION AND REPLACEMENT

2-1. Cleaning the rotary head disc ass'y 5
2-2. Cleaning the tape transport system 5
2-3. Cleaning the drive system 5
2-4. Periodic Maintenance 6
2-5. Service Tools and Jigs 7

3. REPLACEMENT OF MAJOR COMPONENT PARTS OF THE DECK MECHANISM

3-1. FL mechanism 8
  3-1-1. FL door 8
  3-1-2. Erasure protection lever 8
  3-1-3. Gear cover ass'y 8
  3-1-4. Loading motor, worm gear (FL), worm wheel (FL), worm bearing 8
  3-1-5. Door OPEN/CLOSE arm 9
3-2. TS ass'y and guide roller ass'y No.2 9
3-3. ACE ass'y 10
3-4. Drum ass'y 10
3-5. Drum base ass'y 10
3-6. Pinch roller ass'y and elevator cam 11
3-7. Cam gear, press and transmission gear 11
3-8. RVS arm ass'y and RVS cam gear 12
3-9. Guide No.7 12
3-10. S-brake ass'y, T-brake ass'y 13
3-11. T-soft brake ass'y, REV brake arm 13
3-12. S-soft brake arm ass'y 13
3-13. S-guide and T-guide roller assy's 14
3-14. Reel lock release and REW gear 14
3-15. Tension regulator arm ass'y, tension regulator band ass'y 15
3-16. S take-up ass'y 15
3-17. S-reel ass'y 16
3-18. T-reel ass'y 16
3-19. Pendulum arm ass'y 16
3-20. Relay gear 17
3-21. Adjuster arm ass'y 17
3-22. CAP brake ass'y 17
3-23. Capstan motor 18
3-24. Rotary switch 18
3-25. RKB cam gear 19
3-26. Sub-chassis ass'y 19
3-27. Pendulum slide plate, pendulum arm 20
3-28. The limiter arm and limiter slide plate 20
3-29. Cam motor 20
3-30. Cam gear 20
3-31. Tension regulator arm, S take-up arm 21
3-32. Mode slide plate, RVS relay gear 21
3-33. Brake arm, brake slide plate 21
3-34. Right shuttle, right loading gear ass'y 22
3-35. Left shuttle ass'y, left loading gear ass'y 22
3-36. C-roller arm ass'y, C-roller release lever 23

4. ADJUSTMENT

4-1. Tape path adjustment

  4-1-1. Tension regulator position/tension adjustement 24
  4-1-2. Height adjustment of the guide roller No.2 25
  4-1-3. Height adjustment of guide roller No. 7 and the RVS arm 25
  4-1-4. Height adjustment of guide rollers No.3 and No.6 26
  4-1-5. ACE head ass'y adjustment (rough adjustment) 26
  4-1-6. ACE head assembly adjustment (precision adjustment) 27
  4-1-7. X-value adjustment 27
  4-1-8. Adjustments after replacing the drum (video head) 29
  4-1-9. Checking the tension and torque 31

1. PREPARATIONS FOR CHECKS, ADJUSTMENTS AND REPLACEMENT OF THE DECK MECHANISM

Note : Refer to "Replacement Method" in the Service Guide for instructions on replacing the cabinet and PC boards. DO not perform cassette loading or threading with the VCR positioned upside-down.

1-1. LOADING AND UNLOADING VIDEO CASSETTES WITH THE POWER OFF. (Fig. 1-1.)

1-1-1. Manual loading and unloading

1) Rotate the loading motor in the direction of arrow Ⓐ until loading is compleated.
(When unloading, rotate the loading motor in the direction of arrowⒷ.)

1-1-2. Loading and unloading using a separate power source.

1) Cassette loading is performed by applying approx. 10V (300 mA) to the power terminal of the loading motor using a stabilized DC power source.
(When unloading, apply the same voltage to the opposite polarity of the power terminal.)

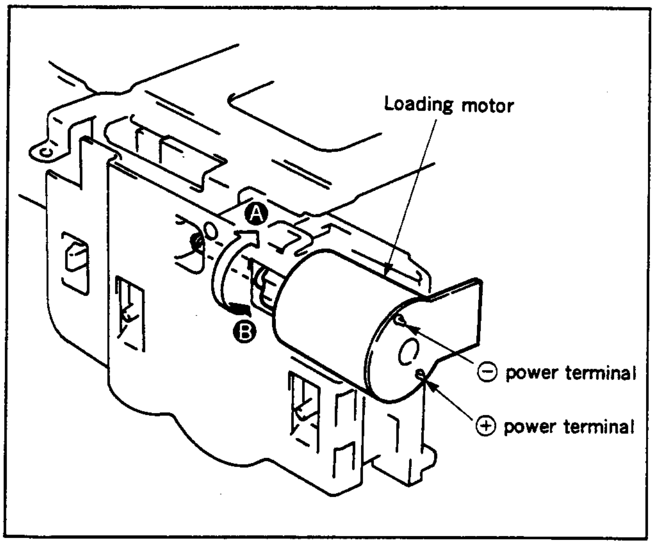


Fig. 1-1.

1-2. THREADING AND UNTHREADING WITH THE POWER OFF. (Fig. 1-2)

1-2-1. Manual threading and unthreading

1) Rotate the cam motor ❶ in the direction of arrowⒶuntil threading is completed.
(When unthreading, rotate the cam motor ❶ in the direction of arrowⒷ.)

1-2-2. Threading and unthreading using a separate power source.

1) Threading is performed by applying approx. 10V (500 mA) to the power terminal for the cam motor ❶ using a DC stabilized power source.
(When unthreading, apply the same voltage to the opposite polarity of the power terminal.)

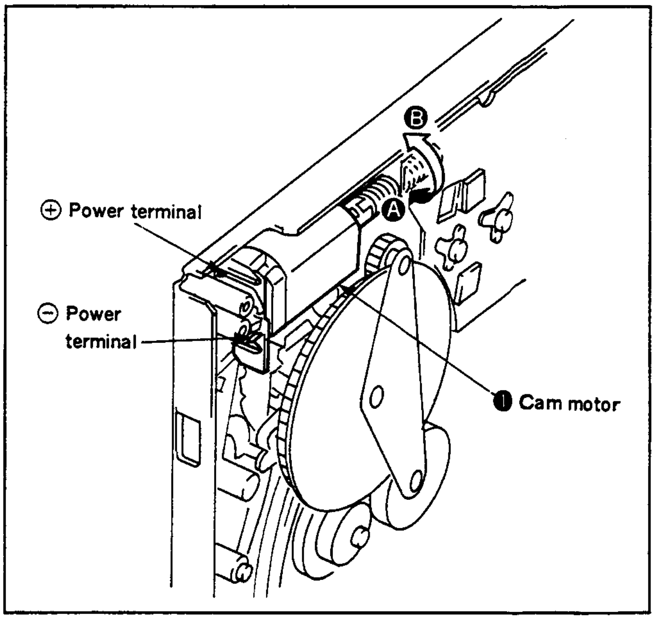


Fig. 1-2.

1-3. TO COMPLETE THREADING WITH THE FL CASSETTE CONTROLLER REMOVED. (Fig. 1-3)

1) Unplug the AC power cord from the power outlet.
2) Shield the supply, take-up sensors and the LED with black-masking tape.
3) Hold the cassatte down switch depressed by taping it, etc.
4) Plug the AC power cord into a power outlet.
   (At this time, the power should turn on and the tape rewinds for approx. 10 seconds, and the power turns off.)
5) Turn the power switch ON so that the mechanism is ready for loading.

Note : In this condition, the VTR is ready to operate in the different operating modes, including the record mode. At this time, rewind the tape for at least 15 seconds, then perform fast forward (FF).

Note : Following the above, be sure to reset the mechanism to the previous state as outlined below.

1) Remove the black-masking tape shielding the supply and take-up sensors, the LED and the tape holding cassette down switch.
2) Unplug the AC power cord from the power outlet to reset the system control microprocessor.

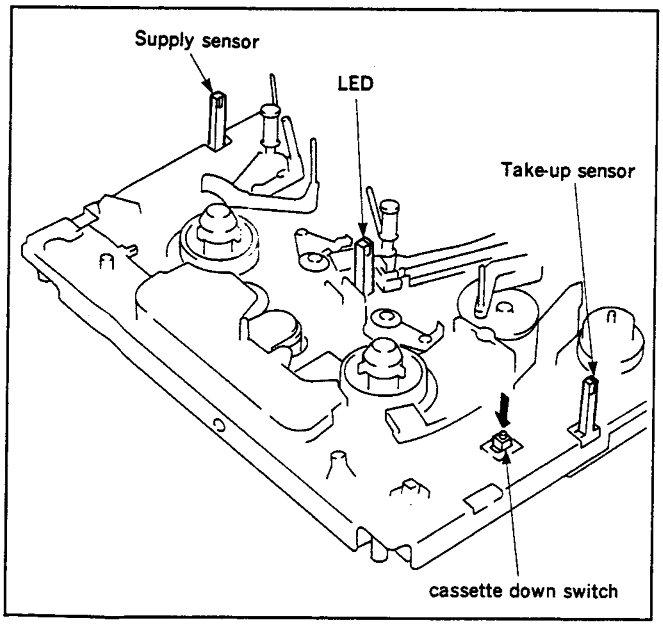


Fig. 1-3.

2. PERIODICAL INSPECTION AND REPLACEMENT

We recommend performing the following periodical inspections and maintenance in order to ensure that the unit operates in top condition and offers full performance, as well as realizes a long life of the mechanism and tapes.

* Be sure to perform the following maintenance procedures after the unit is repaired (regardless how long the unit has been used.)

2-1. CLEANING THE ROTARY HEAD DISC ASS'Y

1) Press Attach a deer skin cloth (Jig. Ref. No. J-7) soaked in cleaning solution (Jig. Ref. No. J-5) lightly to the rotary drum ass'y, then turn the rotary head disc slowly by hand to clean the surface of the rotary drum ass'y. (At this time, do not turn on the power motor to rotate the rotary head disc for cleaning.)
2) Also, do not wipe the drum ass'y by moving the deer skin cloth vertically across the head as this could damage of the tip of the head.

2-2. CLEANING THE TAPE TRANSPORT SYSTEM

1) Clean the tape transport surfaces (tape guide, a drum ass'y surfaces, capstan, pinch roller, etc.) with a deer skin cloth soaked in an approved in the recommended cleaning solution.

2-3. CLEANING THE DRIVE SYSTEM

1) Wipe the drive mechanism with an ordinary cloth soaked in an approved cleaning solution.

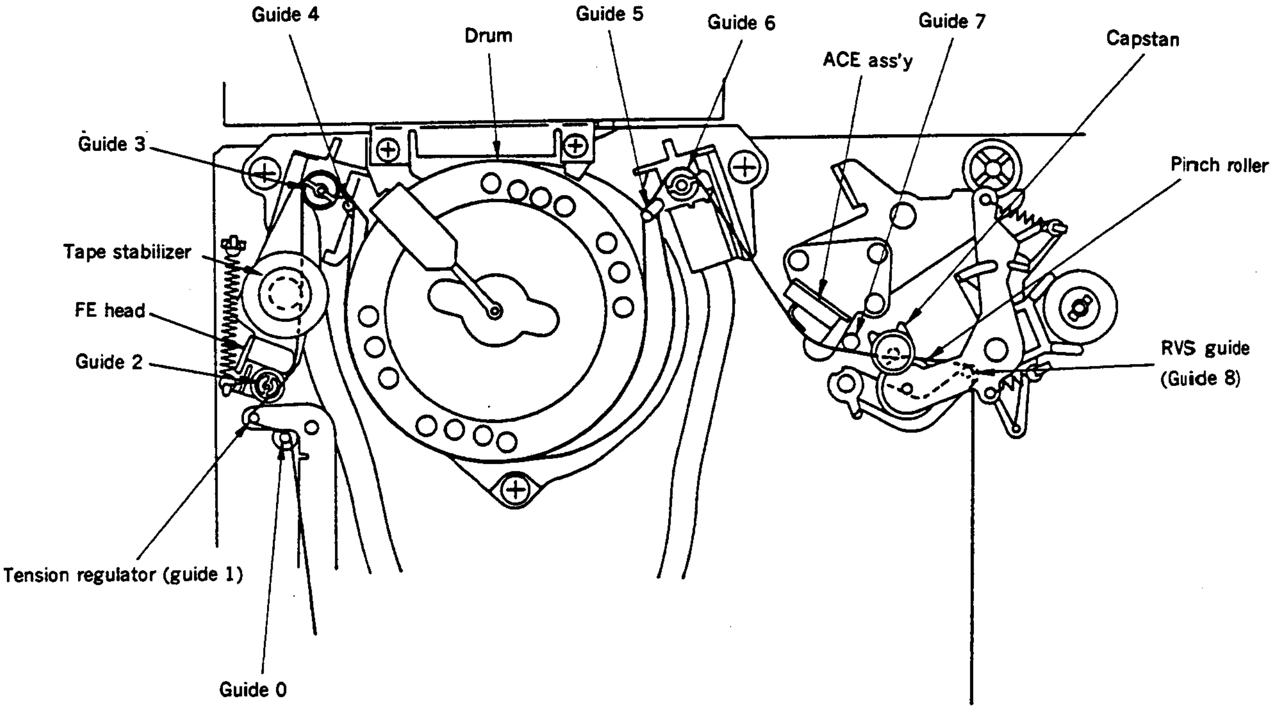

Guide 4
Drum
Guide 5
Guide 6
Guide 7
ACE ass'y
Capstan
Guide 3
Pinch roller
Tape stabilizer
FE head
Guide 2
RVS guide
(Guide 8)
Tension regulator (guide 1)
Guide 0

Fig. 2-1.

2-4. PERIODIC MAINTENANCE

Location of Maintenance and Check		User Hours Replacement Part No.	500	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000	Remarks
Perfor mance Check	Clean tape running surfaces	——	○	○	○	○	○	○	○	○	○	○	Always perform after repair.
	Clean, degauss ACE ass'y	——	○	○	○	○	○	○	○	○	○	○	
	Clean, degauss video disc ass'y	——	○	○	○	○	○	○	○	○	○	○	Head life is greatly affected by environment and method of use.
Driving System	Reel belt	3-736-013-01	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	Always perform after repair.
Tape Running System	Abnormal noise	——	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	Adjust or replace source of abnormal noise.
	Back tension measurement	——	–	☆	–	☆	–	☆	–	☆	–	☆	Check according to 4-1-1. Spec : 24 — 34g/cm (Measured with torque cassette)
	Brake system check	——	–	☆	–	☆	–	☆	–	☆	–	☆	
	REC/PB function check	——	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	Always perform after repair.
	Forward torque measurement		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	Spec : 80 — 140 g·cm

○ Cleaning ☆ Check

Note : Refer to the above items for part replacement when performing an overhaul.

2-5. SERVICE TOOLS AND JIGS

Ref. No.	Description	Part No.	Printing on jig	Remarks
J-1	Master plane	H-7099-279-H		
J-2	Reel disc height jig	H-7099-038-H		
J-3	Torque gauge adapter	H-7099-035-H		
J-4	Torque gauge	H-7099-039-H		
J-5	0.93mm Allen wrench	H-7099-202-H		
J-6	NTSC torque cassette VHT-063S PAL torque cassette	J-6082-011-A J-6082-066-A		For rewind torque and back tension
	NTSC torque cassette VHT-404S PAL torque cassette	J-6082-012-A J-6082-067-A		For cue/review
J-7	NTSC alignment tape JVC-MH-1 PAL alignment tape JVC-MH-2	H-7099-046-H H-7099-052-H		
	NTSC Hi-Fi alignment tape PAL Hi-Fi alignment tape	H-7099-153-H H-7099-175-H		
J-8	Cleaning fluid	Y-2031-001-0	———	
J-9	Chamois cloth	2-034-697-00	———	Cleaning
J-10	Head degausser	Widely available	———	Video, audio head degaussing
J-11	Small adjustment mirror (with handle) Small adjustment mirror (mirror only)	J-6080-029-A J-6080-030-1	SL-5052	For tape path and tape running adjustment and check

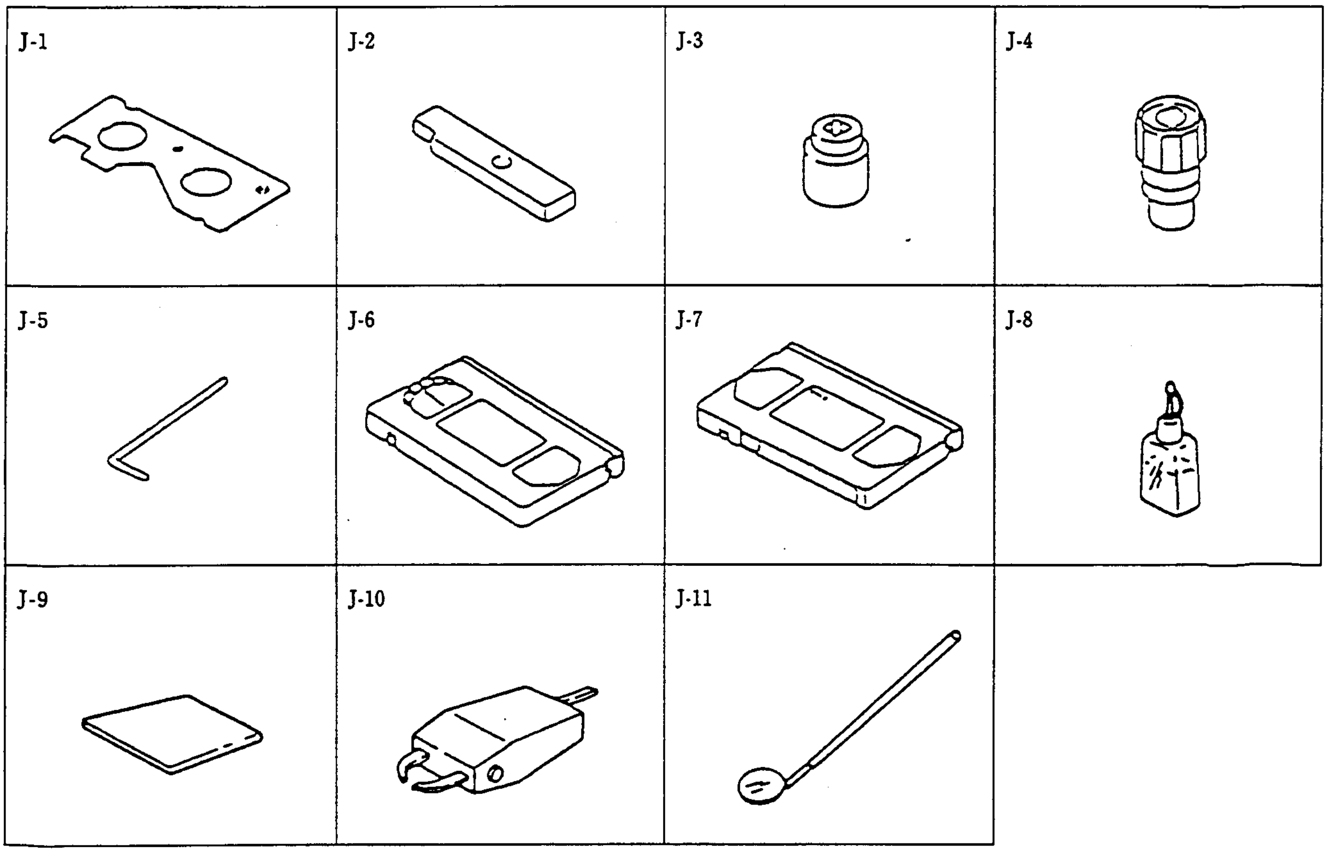


Fig. 2-2. Service tools and jigs

3. REPLACEMENT OF MAJOR COMPONENT PARTS OF THE DECK MECHANISM

Note:
- ○ Refer to "Replacement Method" in the Service Guide for replacing the cabinet and PC boards.
- ○ When mounting parts, reverse the replacement procedure while referring to "Precautions on Mounting Parts".
- ○ After grease coated parts such as gears are replaced, re-grease the replaced part.
- ○ Do not touch the guides (taped surface) and brake shoe directly with your fingers or grease them, etc.
- ○ Gears must be mounted so that they mesh with each other.

3-1. FL MECHANISM

3-1-1. FL door (Fig. 3-1.)

1) Press the claw ❶ in the direction of arrow Ⓐ, then remove the FL door ❷ in the direction of arrow Ⓑ.

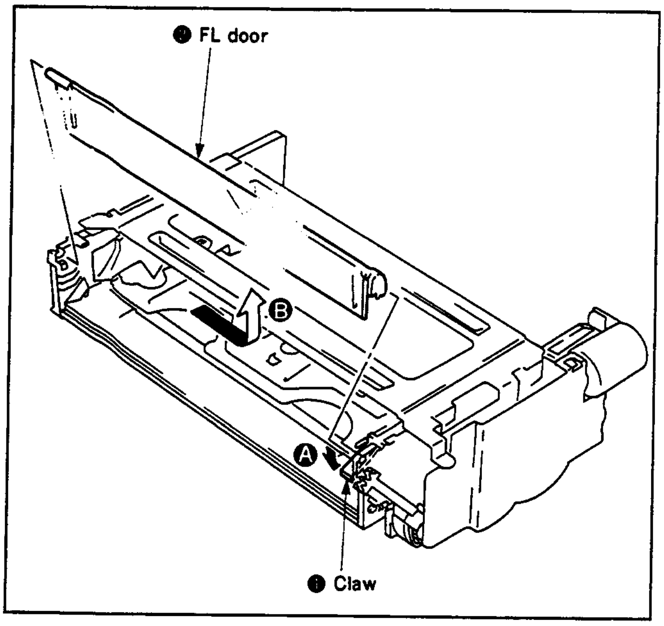

❷ FL door
Ⓑ
Ⓐ
❶ Claw

Fig. 3-1.

3-1-2. Erasure protection lever (Fig. 3-2)

1) Remove the spring ❶.
2) Disengage the claw ❷, then slide the erasure protection lever ❸ in the direction of arrow Ⓐ.
3) Disengage the erasure protection lever ❸ in the direction of arrow Ⓑ.

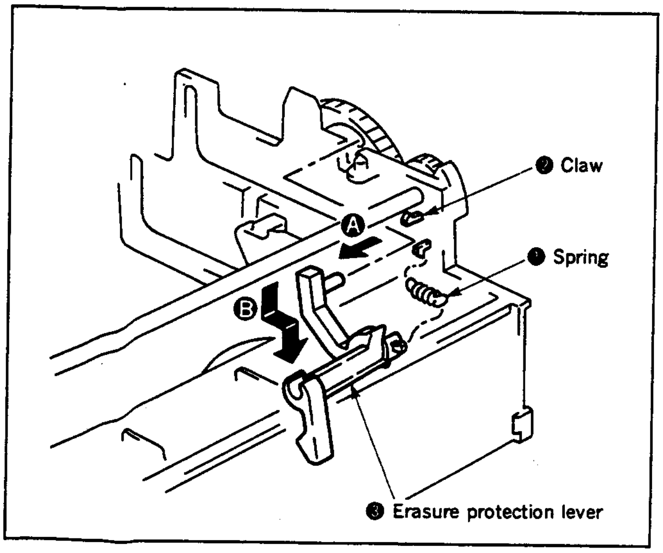

❷ Claw
Ⓐ
❶ Spring
Ⓑ
❸ Erasure protection lever

Fig. 3-2.

3-1-3. Gear cover ass'y (Fig. 3-3)

1) Disengage the four claws ❶, then remove the gear cover ass'y ❷.

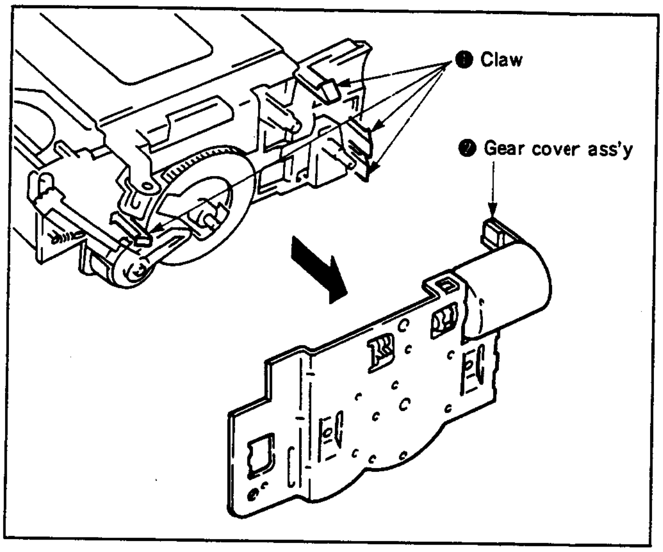

❶ Claw
❷ Gear cover ass'y

Fig. 3-3.

3-1-4. Loading motor, worm gear (FL), worm wheel (FL), worm bearing (Fig. 3-4)

1) Remove washer 3 ❶, then pull out the worm wheel (FL) ❷.
2) Remove the two screws ❸, then remove the loading motor ❹.
3) Remove the worm gear (FL) ❺ and worm bearing ❻.

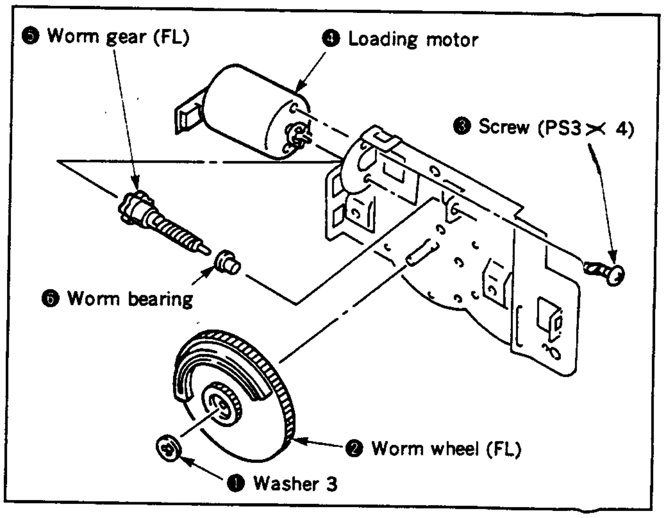

❺ Worm gear (FL)
❹ Loading motor
❸ Screw (PS3 × 4)
❻ Worm bearing
❷ Worm wheel (FL)
❶ Washer 3

Fig. 3-4.

3-1-5. Door OPEN/CLOSE arm (Fig. 3-5)

1) Remove the spring ❶.
2) Pull out the door OPEN/CLOSE arm ❷.

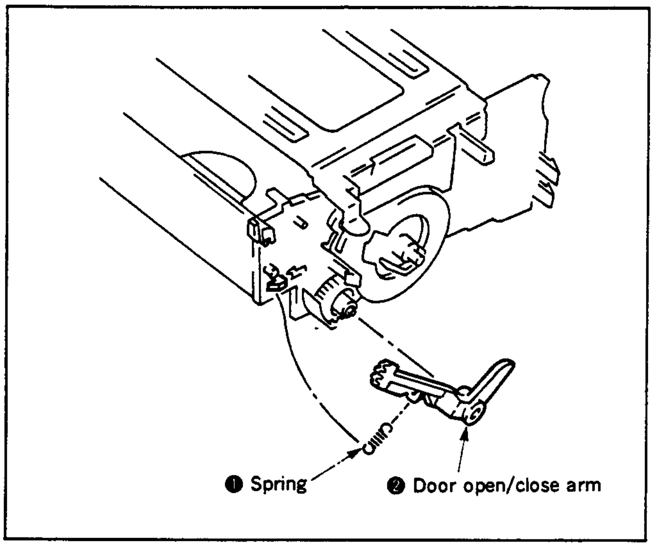

❶ Spring
❷ Door open/close arm

Fig. 3-5.

[Precautions on remounting] (Figs. 3-6 and 3-7.)

- ○ When mounting the gear cover ass'y, match up the two holes on the gear cover ass'y with the two holes on the worm wheel (FL) and then with the hole on the right drive arm ass'y.
- ○ Mesh the FL door and the door OPEN/CLOSE arm together as shown in Ⓐ section in the figure below.
- ○ The erasure protection lever shaft must fit into the groove on the left drive arm ass'y.

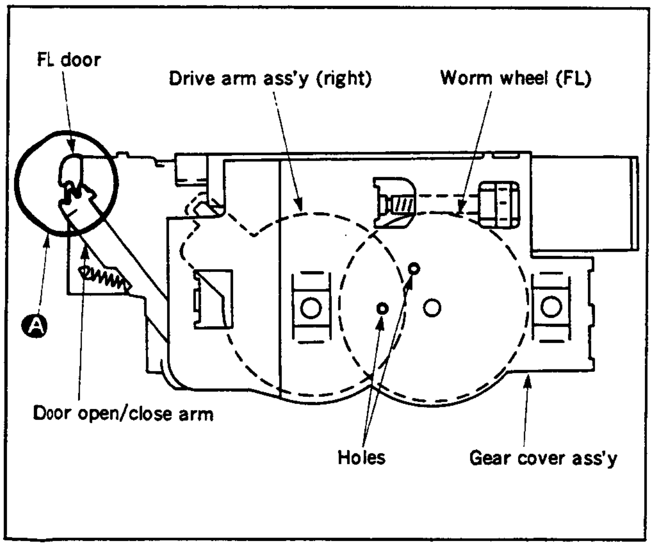

FL door
Drive arm ass'y (right)
Worm wheel (FL)
Ⓐ
Door open/close arm
Holes
Gear cover ass'y

Fig. 3-6.

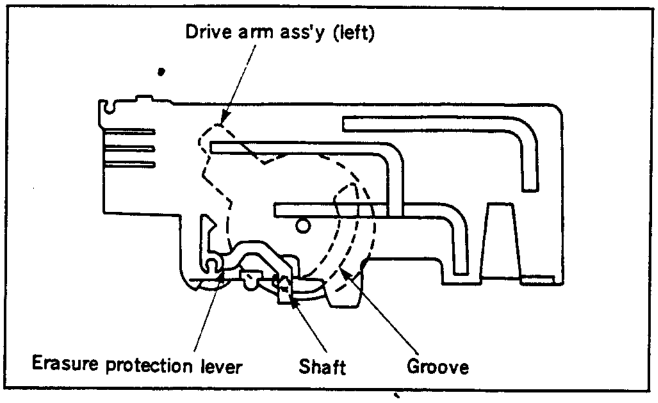

Drive arm ass'y (left)
Erasure protection lever
Shaft
Groove

Fig. 3-7.

3-2. TS ASS'Y AND GUIDE ROLLER ASS'Y No. 2 (Fig. 3-8)

1) Remove the spring ❶.
2) Remove the TS ass'y ❷ in the direction of arrow Ⓐ.
3) Turn guide roller ass'y No. 2 ❸ in the direction of arrow Ⓑ and pull it out.

[Precautions on remounting]

- ○ Clean the surface of guide roller No. 2 ❸ where the tape is attached.
- ○ Apply lubricant over the section shown in Figure A below.

[Adjustment after replacement]

- ○ Perform tape path adjustments as described in 4-1.

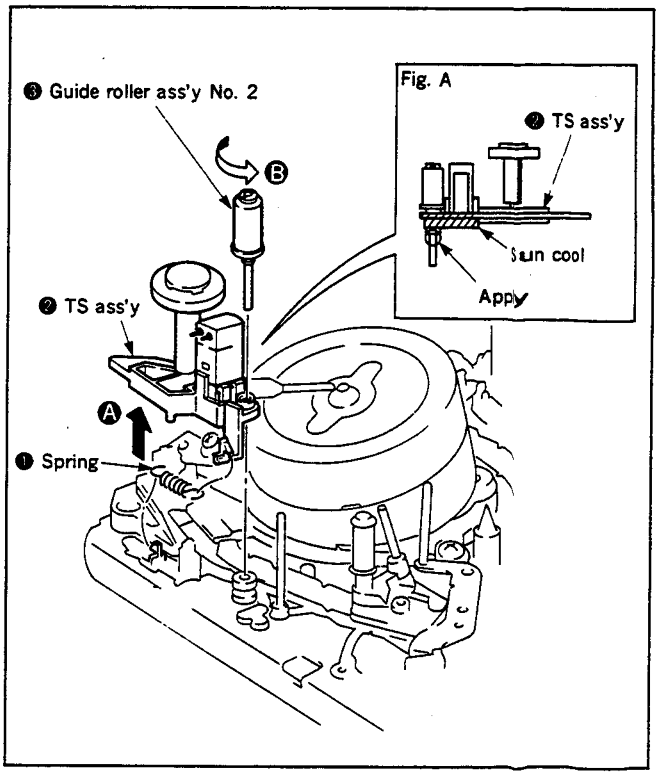

❸ Guide roller ass'y No. 2
Ⓑ
❷ TS ass'y
Ⓐ
❶ Spring
Fig. A
❷ TS ass'y
Sun cool
Apply

Fig. 3-8.

3-3. ACE ASS'Y (Fig. 3-9)

1) Slide the torsion coil spring ❶ in the direction of the arrow.
2) Remove the nylon nut N3 ❷, then pull out the ACE ass'y ❸.
3) Remove the ACE adjuster screw ❹.

[Precautions on remounting]

- ○ Clean the surface of the ACE ass'y ❸ where the tape is attached.
- ○ Hook both ends of the torsion coil spring ❶ to the ass'y as shown in Figure A below.
- ○ Adjust the ACE adjuster screw ❹ to the height shown in Figure A.

[Adjustment after replacement]

- ○ Perform tape path adjustments as described in 4-1.

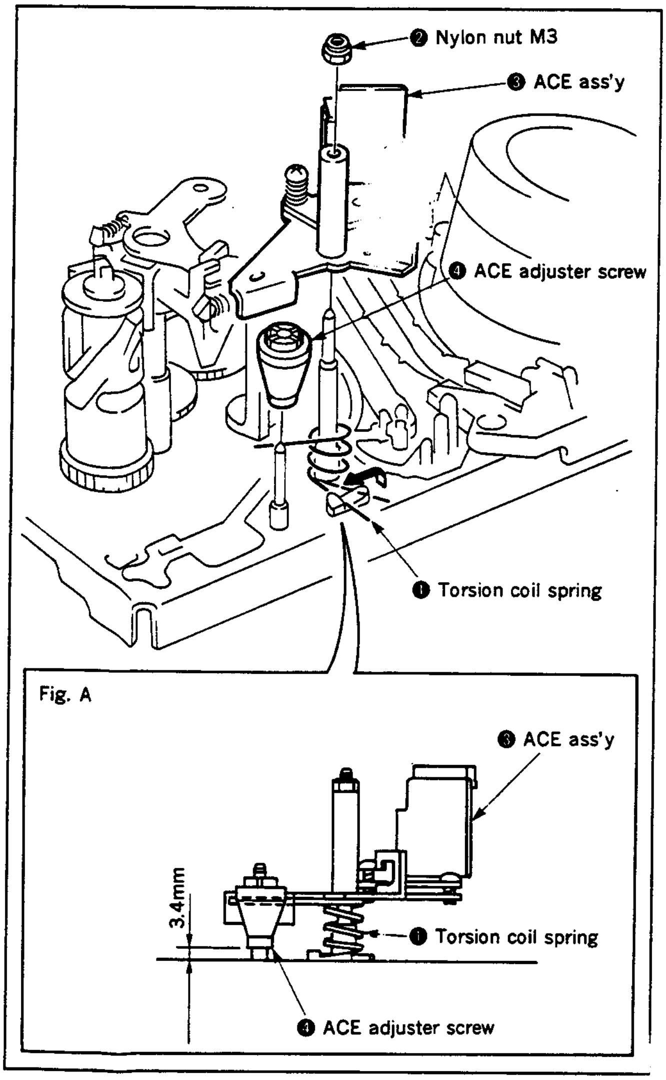

❷ Nylon nut M3
❸ ACE ass'y
❹ ACE adjuster screw
❶ Torsion coil spring
Fig. A
❸ ACE ass'y
3.4mm
❶ Torsion coil spring
❹ ACE adjuster screw

Fig. 3-9.

3-4. DRUM ASS'Y (Fig. 3-10)

1) Remove the three screws ❶, then remove the drum ass'y ❷.

[Precautions on remounting]

- ○ Do not touch the head tips ❸ and the ground plate ❹ directly with your fingers or tools.
- ○ Clean the surface of the drum ass'y ❷ where a tape is attached.
- ○ The stopper ❺ must be attached at the point shown in the figure below.
- ○ Screws must be fastened with a 6kg•cm (±1kg•cm) screw fastening torque. (The screws can be mounted in any order.)

[Adjustment after replacement]

- ○ Perform tape path adjustments as described in 4-1.

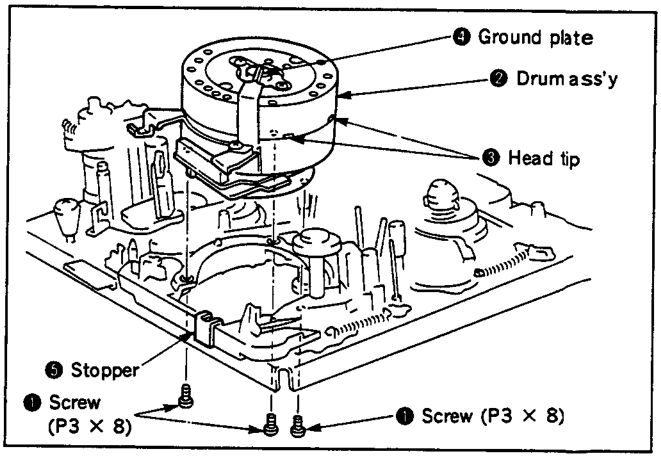

❹ Ground plate
❷ Drum ass'y
❸ Head tip
❺ Stopper
❶ Screw (P3 × 8)
❶ Screw (P3 × 8)

Fig. 3-10.

3-5. DRUM BASE ASS'Y (Fig. 3-11)

1) Remove the drum. (Refer to 3-4.)
2) Remove the three screws ❶, then remove the drum base ass'y ❷.

[Precautions on remounting]

- ○ The spacer ❸ for the drum base must be mounted in its previous position as shown in the figure below. (Note that some units do not feature the spacer ❸.)
- ○ Fastening torque must be 10kg•cm (±1kg•cm)
- ○ The screws must be mounted in order of (a),(b) and (c).

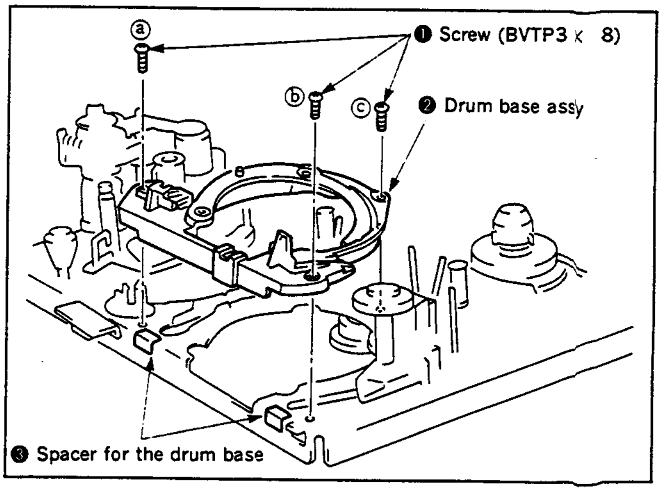

ⓐ
ⓑ
ⓒ
❶ Screw (BVTP3 × 8)
❷ Drum base ass'y
❸ Spacer for the drum base

Fig. 3-11.

3-6. PINCH ROLLER ASS'Y AND ELEVATOR CAM (Fig. 3-12)

1) Remove the two claws ❶, then pull out the stopper ❷.
2) Pull out the pinch roller ass'y ❸.
3) Pull out the elevator cam ❹.

[Precautions on remounting]

- ○ Clean the surface of the pinch roller ass'y ❸ where the tape is attached.
- ○ Match up the ▯ marks on the elevator cam ❹ and cam gear, press ❺.

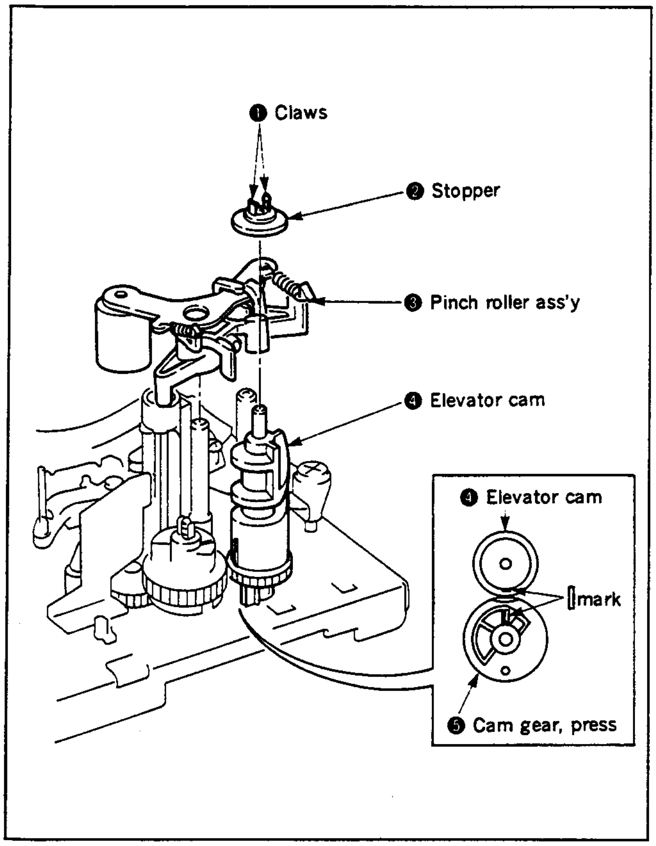

❶ Claws
❷ Stopper
❸ Pinch roller ass'y
❹ Elevator cam
❹ Elevator cam
▯mark
❺ Cam gear, press

Fig. 3-12.

3-7. CAM GEAR, PRESS AND TRANSMISSION GEAR (Fig. 3-13)

1) Remove the pinch roller ass'y. (Refer to 3-6.)
2) Remove the screw ❶, then remove the lid release plate ❷.
3) Remove the two claws ❸, then pull out the cam gear, press ❹.
4) Remove the washer 2 ❺, then pull out the transmission gear ❻.

[Precautions on remounting]

- ○ Check the top and bottom of the transmission gear ❻.
- ○ Match up the hole ❼ on the chassis with the hole ❼ on the cam gear, press ❹.
- ○ Match up the ▯ mark on the cam gear, press ❹ with the ▯ mark on the alleviator cam ❽.

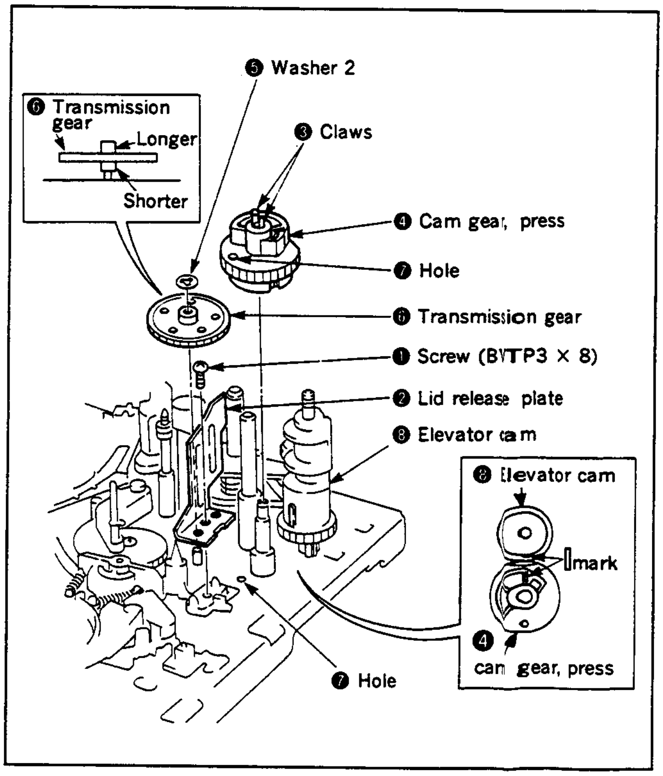

❺ Washer 2
❻ Transmission gear
Longer
Shorter
❸ Claws
❹ Cam gear, press
❼ Hole
❻ Transmission gear
❶ Screw (BVTP3 × 8)
❷ Lid release plate
❽ Elevator cam
❽ Elevator cam
▯mark
❹ cam gear, press
❼ Hole

Fig. 3-13.

3-8. RVS ARM ASS'Y AND RVS CAM GEAR (Fig. 3-14)

1) Remove the nylon nut M2 ❶ and plastic washer ❷.
2) Disengage the claw ❸, then pull out the RVS arm ass'y ❹.
3) Remove washer 2 ❺, then pull out the RVS cam gear ❻.

[Precautions on remounting]

○ The holes ❼ in the chassis and in the RVS cam gear ❻ must match up. Also, make sure to match up the holes ❾ on the cam gear, press ❽ and the chassis.

○ The spring ❿ must be hooked as shown in Fig. A below.

○ Clean the surface of the RVS arm ass'y ❹ where a tape is attached.

○ Apply 1/2 drop of lubricant to the shaft ⓫.

[Adjustment after replacement]

○ Perform tape path adjustments as described in 4-1.

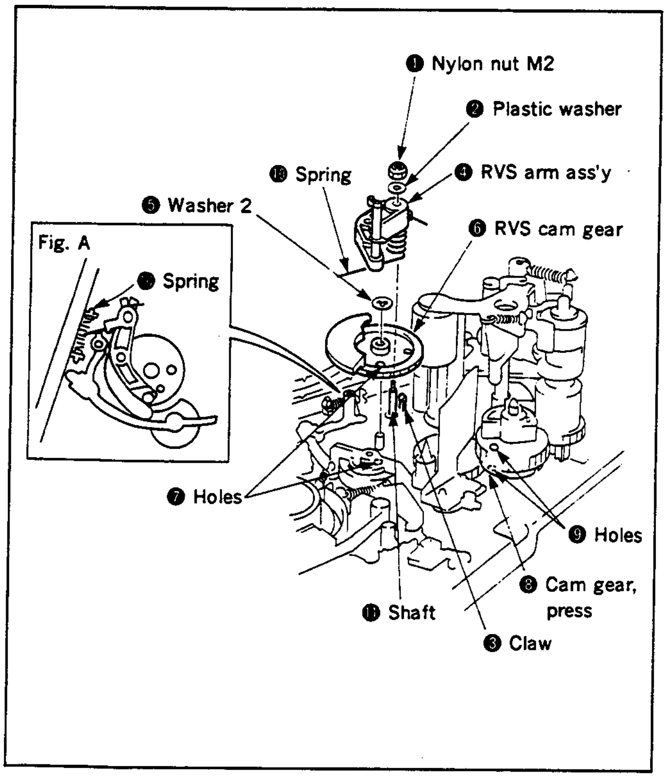

❶ Nylon nut M2
❷ Plastic washer
❿ Spring
❹ RVS arm ass'y
❺ Washer 2
❻ RVS cam gear
Fig. A
❿ Spring
❼ Holes
❾ Holes
❽ Cam gear, press
⓫ Shaft
❸ Claw

Fig. 3-14.

3-9. GUIDE No. 7 (Fig. 3-15)

1) Remove the nylon nut M3 ❶.
2) Pull out guide flange No. 7 ❷, guide sleeve No. 7 ❸, guide flange No. 7 ❹ and compression coil spring ❺ in the given order.

[Precautions on remounting]

○ Clean the surface of the guide sleeve No. 7 ❸ where the tape is attached.

○ Adjust the height of guide No. 7 to the height shown in Fig. A below.

[Adjustment after replacement]

○ Perform tape path adjustments as described in 4-1.

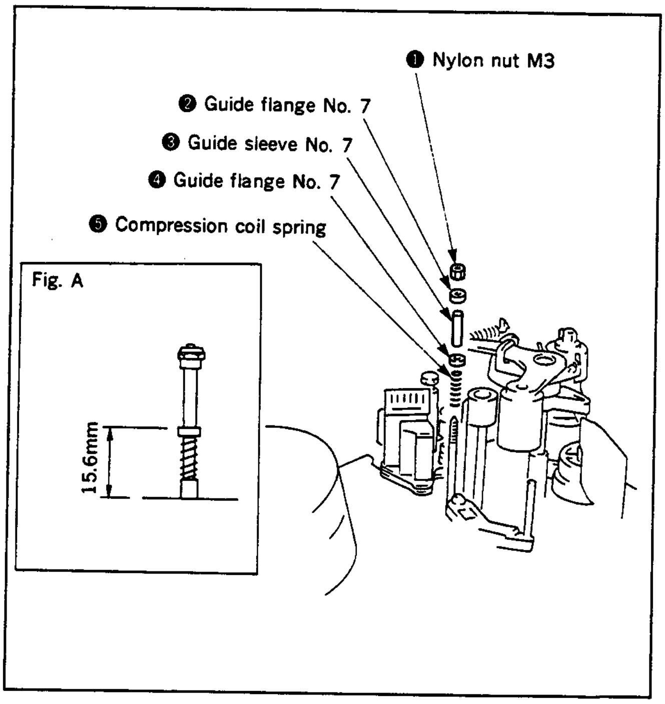

❶ Nylon nut M3
❷ Guide flange No. 7
❸ Guide sleeve No. 7
❹ Guide flange No. 7
❺ Compression coil spring
Fig. A
15.6mm

Fig. 3-15.

3-10. S-BRAKE ASS'Y, T-BRAKE ASS'Y (Fig. 3-16)

1) Remove the spring ❶.
2) Disengage the claw ❷, then pull out the S-brake ass'y ❸.
3) Disengage the claw ❹, then pull out the T-brake ass'y ❺.

[Precautions on remounting]

- ○ Do not touch the brake shoes for the respective S-brake ❸ and T-brake ❺ assy's directly with your fingers.
- ○ Do not hold on to the S-brake ❸ and T-brake ❺ assy's by the arms when inserting them.
- ○ The T-brake ass'y ❺ must be positioned above the S-brake ass'y ❸ as shown in Fig. A below.

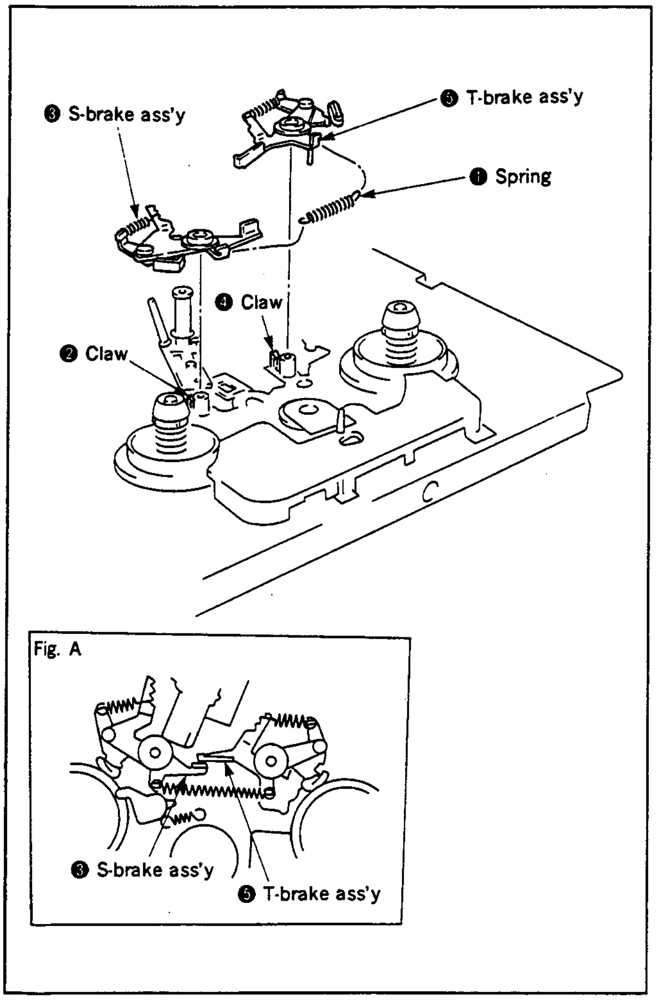

❸ S-brake ass'y
❺ T-brake ass'y
❶ Spring
❹ Claw
❷ Claw
Fig. A
❸ S-brake ass'y
❺ T-brake ass'y

Fig. 3-16.

3-11. T-SOFT BRAKE ASS'Y REV BRAKE ARM (Fig. 3-17)

1) Remove the end of the spring ❶ from the REV brake arm ❷.
2) Remove the end of the spring ❸ from the chassis.
3) Disengage the claw ❹, then pull out the T-soft brake ass'y ❺.
4) Disengage the claw ❻, then pull out the REV brake arm ❷.

[Precautions on remounting]

- ○ Do not touch the brake shoe of the T-soft brake ass'y ❺ directly with your fingers.

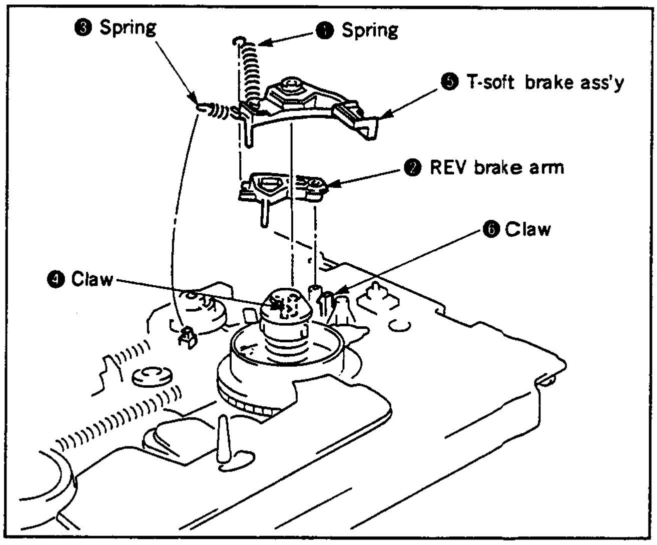

❸ Spring
❶ Spring
❺ T-soft brake ass'y
❷ REV brake arm
❻ Claw
❹ Claw

Fig. 3-17.

3-12. S-SOFT BRAKE ARM ASS'Y (Fig. 3-18)

1) Unhook the end of the spring ❶ from the chassis.
2) Disengage the claw ❷, then pull out the S-soft brake arm ass'y ❸.

[Precautions on remounting]

- ○ The S-soft brake arm ass'y must not clamp down the tension regulator band ass'y ❹ nor be positioned below the tension regulator band ❹.

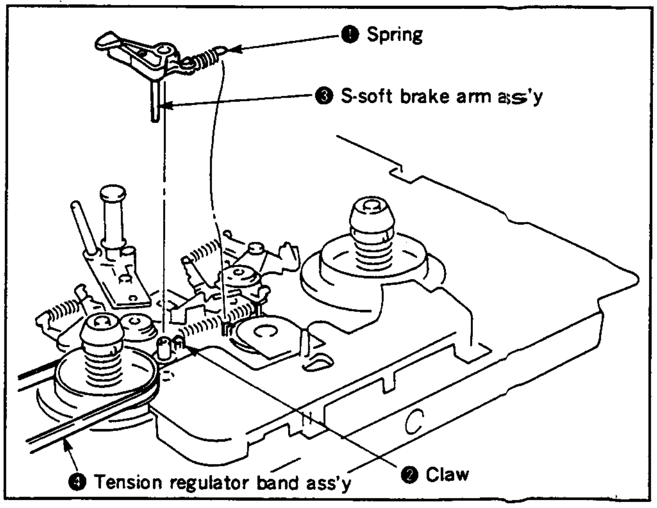

❶ Spring
❸ S-soft brake arm ass'y
❹ Tension regulator band ass'y
❷ Claw

Fig. 3-18.

3-13. S-GUIDE AND T-GUIDE ROLLER ASSY'S (Fig. 3-19)

1) Loosen the setscrew ❶, then remove the S-guide roller ass'y ❷ by turning it in the direction of the arrow Ⓐ.
2) Loosen the setscrew ❸, then remove the T-guide roller ass'y ❹ by turning it in the direction of arrow Ⓑ.

[Precautions on remounting]

○ Clean the surfaces of the S-guide roller ❷ and T-guide roller assy's ❹ where a tape is attached.

[Adjustment after replacement]

○ Perform tape path adjustments as described in 4-1.

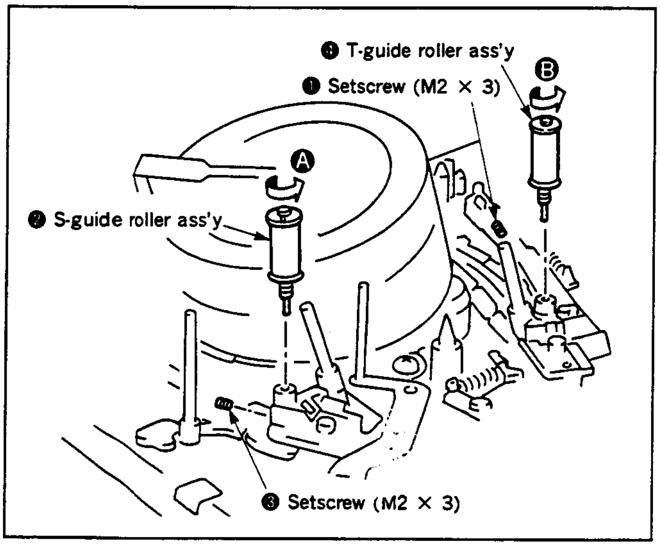

❹ T-guide roller ass'y
❶ Setscrew (M2 × 3)
Ⓑ
Ⓐ
❷ S-guide roller ass'y
❸ Setscrew (M2 × 3)

Fig. 3-19.

3-14. REEL LOCK RELEASE AND REW GEAR (Fig. 3-20)

1) Disengage the two claws ❶, then remove the reel lock release ❷ along with the spring ❸ (while the spring is still attached).
2) Next, pull out the REW gear ❹ with the spring bearing ❺ still attached).

[Precautions on remounting]

○ Make sure that the small thrust bearing ❻ remains attached.

○ Make sure that the two claws ❶ lock the real lock release ❷ in place.

○ Apply 1/2 drop of lubricant to the shaft ❼.

○ Make sure that the spring ❸ adheres to the reel lock release ❷ and that it fits inside the rib of the REW gear ❹.

○ Mount the REW gear ❹ by meshing it with gear ❽.

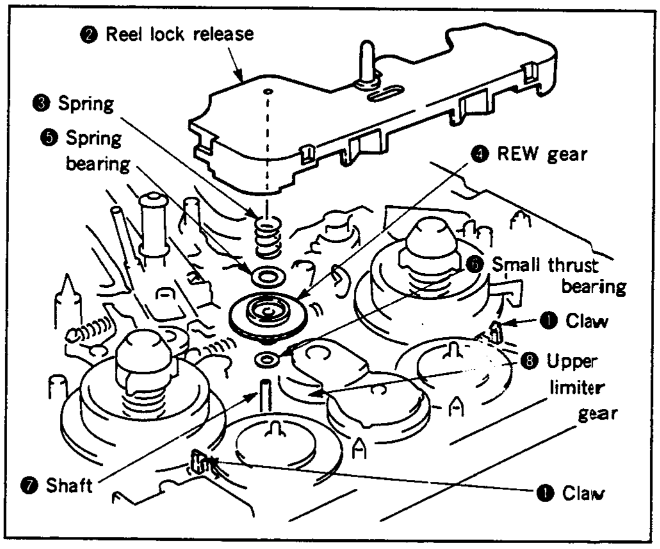

❷ Reel lock release
❸ Spring
❺ Spring bearing
❹ REW gear
❻ Small thrust bearing
❶ Claw
❽ Upper limiter gear
❼ Shaft
❶ Claw

Fig. 3-20.

3-15. TENSION REGULATOR ARM ASS'Y, TENSION REGULATOR BAND ASS'Y (Fig. 3-21)

1) Remove the reel lock release ass'y. (Refer to Fig. 3-14.)
2) Disengage the three claws marked ❶ and the claw marked ❷, then remove the tension regulator band ass'y ❸.
3) Unhook the end of the spring ❹ from the chassis.
4) Disengage the claw ❺, then pull out the tension regulator arm ass'y ❻.

[Precautions on remounting]

- ○ Roll up the tension regulator band ❸ on the S-reel by turning the S-soft brake arm ass'y ❼ in the direction of the arrow.
- ○ Hook the spring ❹ at the center of the spring hook ❽.
- ○ Do not touch the brake shoe of the tension regulator band ass'y ❸ directly with your fingers.
- ○ Mount the tension regulator arm ass'y ❻ at the position shown in Fig. A below.

[Adjustment after replacement]

- ○ Check the back tension. (Refer to 4-1-1.)
- ○ Perform tape path adjustments as described in 4-1.

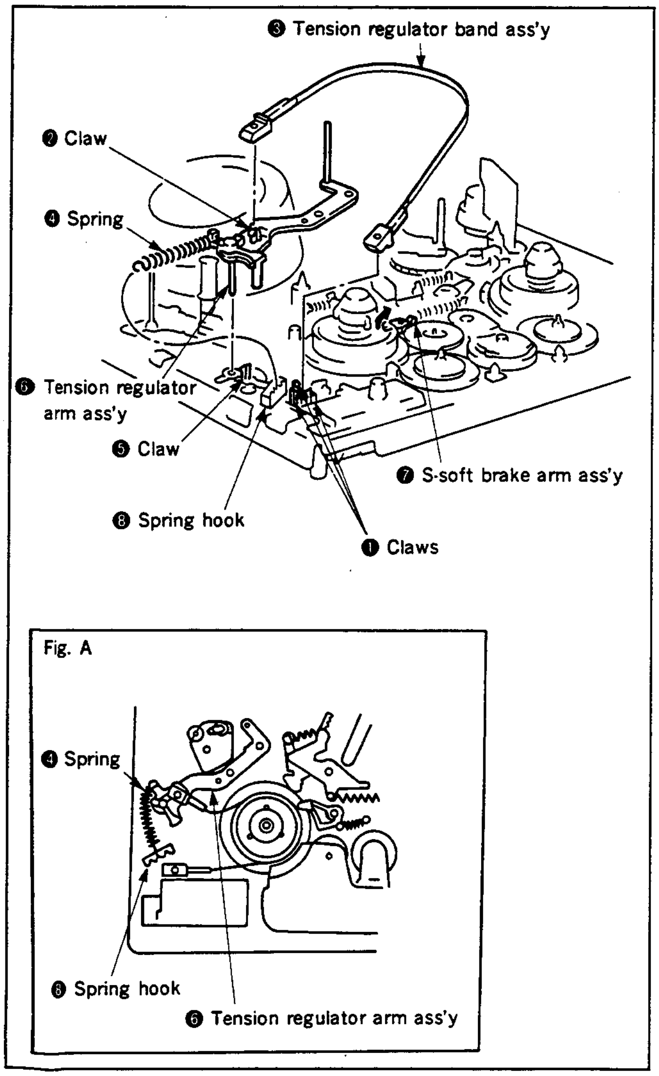

❸ Tension regulator band ass'y
❷ Claw
❹ Spring
❻ Tension regulator arm ass'y
❺ Claw
❼ S-soft brake arm ass'y
❽ Spring hook
❶ Claws
Fig. A
❹ Spring
❽ Spring hook
❻ Tension regulator arm ass'y

Fig. 3-21.

3-16. S TAKE-UP ASS'Y (Fig. 3-22)

1) Remove the tension regulator arm ass'y and the tension regulator band ass'y. (Refer to 3-15.)
2) Unhook the end of the spring ❶ from the S take-up arm ❷.
3) Disengage the two claws ❸, then remove the S take-up ass'y ❹.

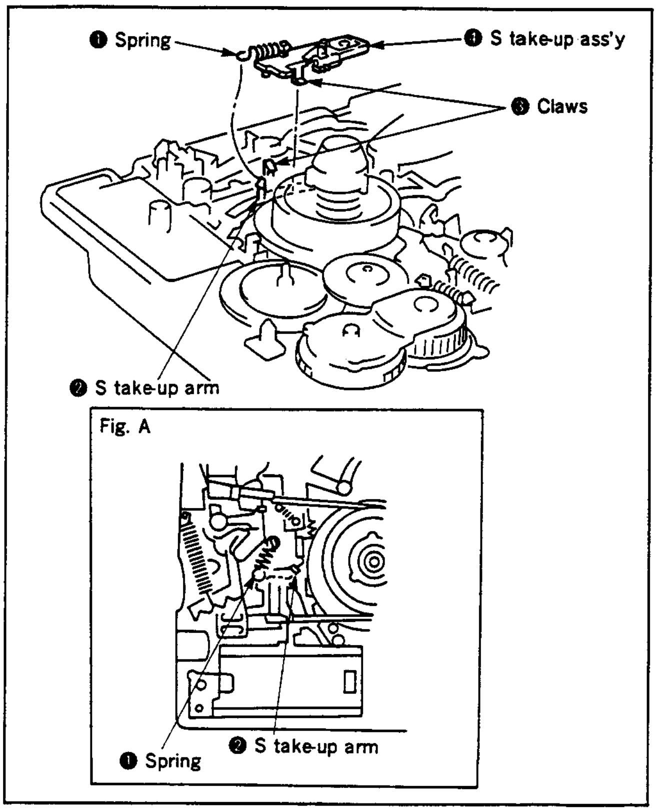

❶ Spring
❹ S take-up ass'y
❸ Claws
❷ S take-up arm
Fig. A
❶ Spring
❷ S take-up arm

Fig. 3-22.

3-17. S-REEL ASS'Y (Fig. 3-23)

1) Remove the S-soft brake arm ass'y. (Refer to 3-12.)
2) Remove the reel lock release. (Refer to 3-14.)
3) Remove the tension regulator band ass'y. (Refer to 3- 15.)
4) Turn the S-brake ass'y ❶ in the direction of the arrow.
5) Pull out the S-reel ass'y ❷.

[Precautions on remounting]

- ○ At least one reel stand thrust bearing ❸ must be attached (but not more than two).
- ○ Do not touch the outer edge of the S-reel ass'y ❷ directly with your fingers.
- ○ Apply 1/2 drop of lubricant over the shaft ❹.
- ○ Mount the S-reel ass'y ❷ while meshing it with the relay gear ❺.

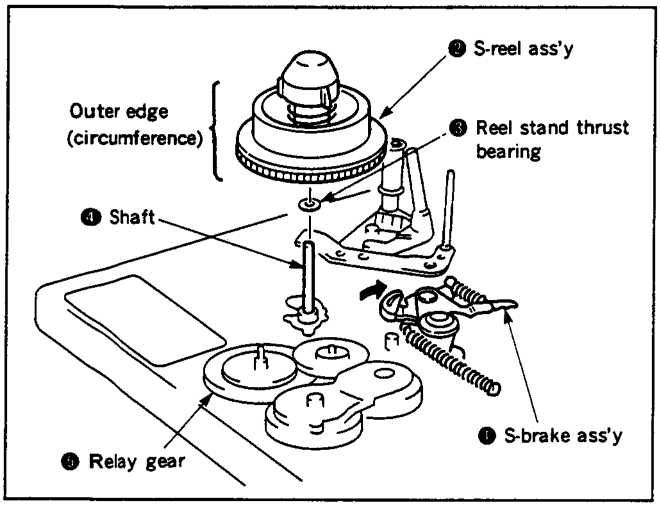

❷ S-reel ass'y
Outer edge (circumference)
❸ Reel stand thrust bearing
❹ Shaft
❶ S-brake ass'y
❺ Relay gear

Fig. 3-23.

3-18. T-REEL ASS'Y (Fig. 3-24)

1) Remove the T-soft brake ass'y. (Refer to 3-11.)
2) Remove the reel lock release ass'y. (Refer to 3-14.)
3) Turn the T-brake ass'y ❶ in the direction of the arrow.
4) Pull out the T-reel ass'y ❷.

[Precautions on remounting]

- ○ At least one reel stand thrust bearing ❸ must be attached (but not more than two).
- ○ Do not touch the outer edge of the T-reel ass'y ❷ directly with your fingers.
- ○ Apply 1/2 drop of lubricant on the shaft ❹.
- ○ Mount the T-reel ass'y ❷ while meshing it with the relay gear ❺.

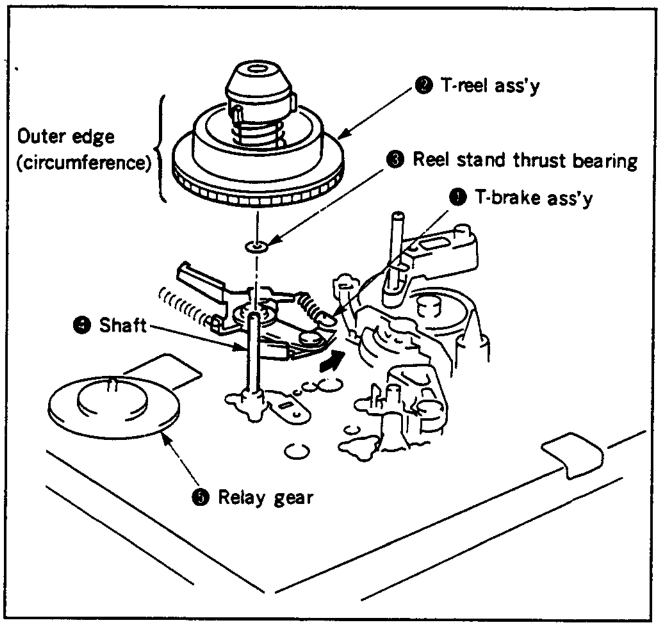

❷ T-reel ass'y
Outer edge (circumference)
❸ Reel stand thrust bearing
❶ T-brake ass'y
❹ Shaft
❺ Relay gear

Fig. 3-24.

3-19. PENDULUM ARM ASS'Y (Fig. 3-25)

1) Remove the reel lock release ass'y. (Refer to 3-14.)
2) Remove the washer 2 ❶, then pull out the pendulum arm ass'y ❷.

[Precautions on remounting]

- ○ Fit the boss on the pendulum cap ❸ into the gap in the pendulum slide plate ❹.
- ○ The plastic slider ❺ must be attzched.
- ○ Apply 1/2 drop of lubricant on the shaft ❻.
- ○ Mount the pendulum arm ass'y ❷ by meshing it with the upper limiter gear ❼.

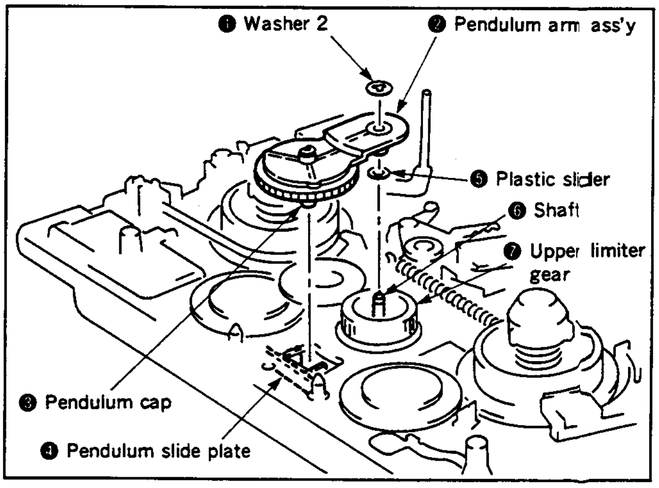

❶ Washer 2
❷ Pendulum arm ass'y
❺ Plastic slider
❻ Shaft
❼ Upper limiter gear
❸ Pendulum cap
❹ Pendulum slide plate

Fig. 3-25.

3-20. RELAY GEAR (Fig. 3-26)

1) Remove the reel lock release and REW gear. (Refer to 3-14.)
2) Remove the S-reel ass'y. (Refer to 3-17.)
3) Remove the T-reel ass'y. (Refer to 3-18).
4) Pull out the two relay gears ❶.

[Precautions on remounting]

○ The relay gears ❶ must rotate smoothly after remounting.

○ Apply 1/2 drop of lubricant to the respective shafts ❷.

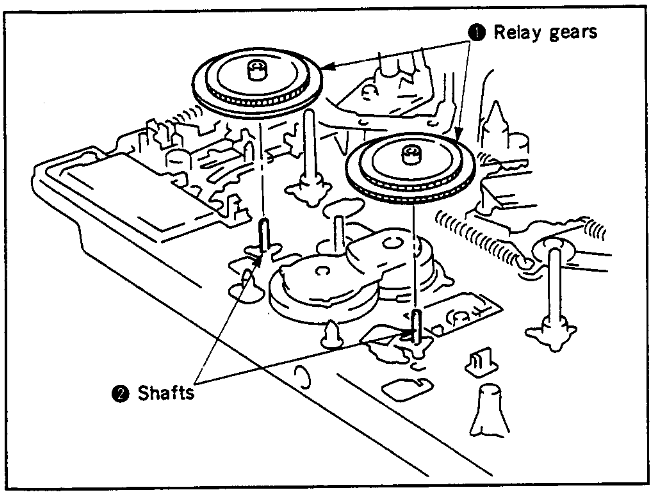

❶ Relay gears
❷ Shafts

Fig. 3-26.

3-21. ADJUSTER ARM ASS'Y (Fig. 3-27)

1) Remove screw ❶.
2) Remove washer ❻.
3) Remove the end of the spring ❷ hooked to the chassis.
4) Remove the end of the timing belt ❸ from the capstan motor arm ass'y.
5) Disengage the claw ❹, then remove the adjuster arm ass'y.

[Precautions on remounting]

○ First mount the adjuster arm ass'y ❺, timing belt ❸ and spring ❷, then attach the washer ❻ and fasten the screw ❶.

○ The screw fastening torque must be within 5kg•cm (±1kg•cm).

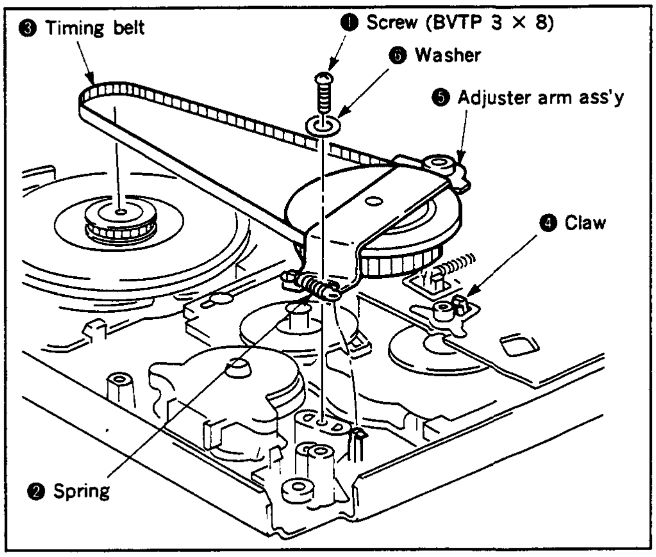

❸ Timing belt
❶ Screw (BVTP 3 × 8)
❻ Washer
❺ Adjuster arm ass'y
❹ Claw
❷ Spring

Fig. 3-27.

3-22. CAP BRAKE ASS'Y (Fig. 3-28)

1) Loosen the screw ❶, then push the timing belt ❷ in the direction of the arrow.
2) Unhook the end of the spring ❸ from the chassis.
3) Disengage claw ❹, then pull out CAP brake ass'y ❺.

[Precautions on remounting]

○ Do not touch the brake shoe of the CAP brake ass'y ❺ directly with your fingers.

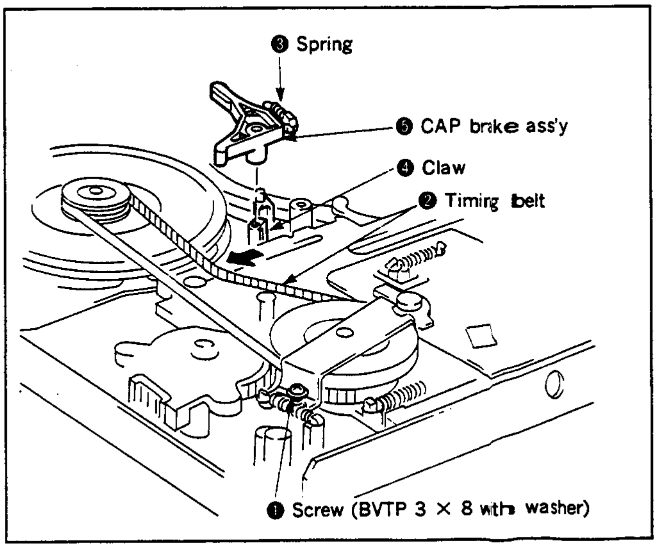

❸ Spring
❺ CAP brake ass'y
❹ Claw
❷ Timing belt
❶ Screw (BVTP 3 × 8 with washer)

Fig. 3-28.

3-23. CAPSTAN MOTOR (Fig. 3-29)

1) Turn the ACE ass'y ❶ in the direction of arrow Ⓐ as shown in Fig. A below, then remove three screws ❷.
2) Remove screw ❸, then remove the rotor clamp ❹.
3) Turn the CAP brake ass'y ❺ in the direction of arrow Ⓑ, then pull out the capstan motor ❻.

[Precautions on remounting]

- ○ Clean the section of the capstan motor ❻ where the tape is attached.
- ○ Do not touch the brake shoe of the CAP brake ass'y ❺ directly with your fingers.
- ○ Of the three screws ❷, first fasten screw A temporarily, then fasten screws B and C firmly, followed by screw A.
- ○ The screw fastening torque must be within 3kg•cm ± 1kg•cm.

[Adjustments after mounting]

- ○ Perform tape path adjustments as described in 4-1.

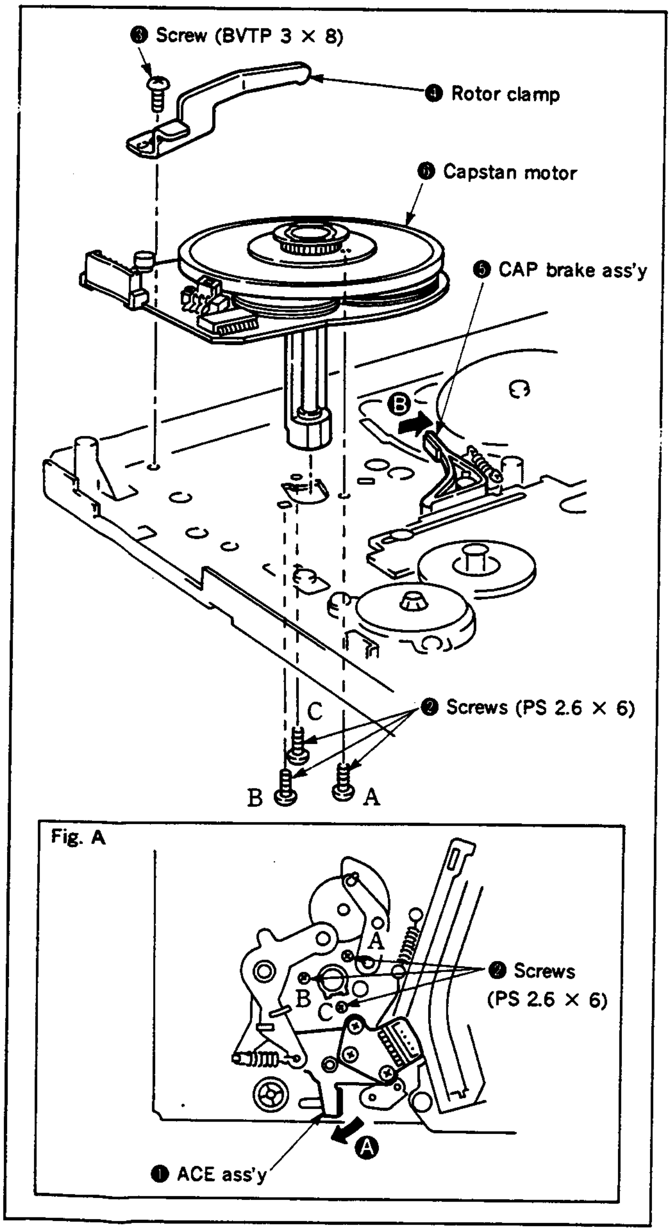

❸ Screw (BVTP 3 × 8)
❹ Rotor clamp
❻ Capstan motor
❺ CAP brake ass'y
Ⓑ
C
❷ Screws (PS 2.6 × 6)
B
A
Fig. A
A
B
C
❷ Screws (PS 2.6 × 6)
❶ ACE ass'y
Ⓐ

Fig. 3-29.

3-24. ROTARY SWITCH (Fig. 3-30)

1) Remove the adjuster arm ass'y. (Refer to 3-21.)
2) Remove the screws ❶ and ❷, then pull out the rotary switch ❸.

[Precautions on remounting]

- ○ Match up the ● mark on the rotary switch ❸ with the ▲ mark on the RKB cam gear ❹ as shown in Fig. A.
- ○ Match up holes ❻ on the pendulum arm ❺ and the chassis.

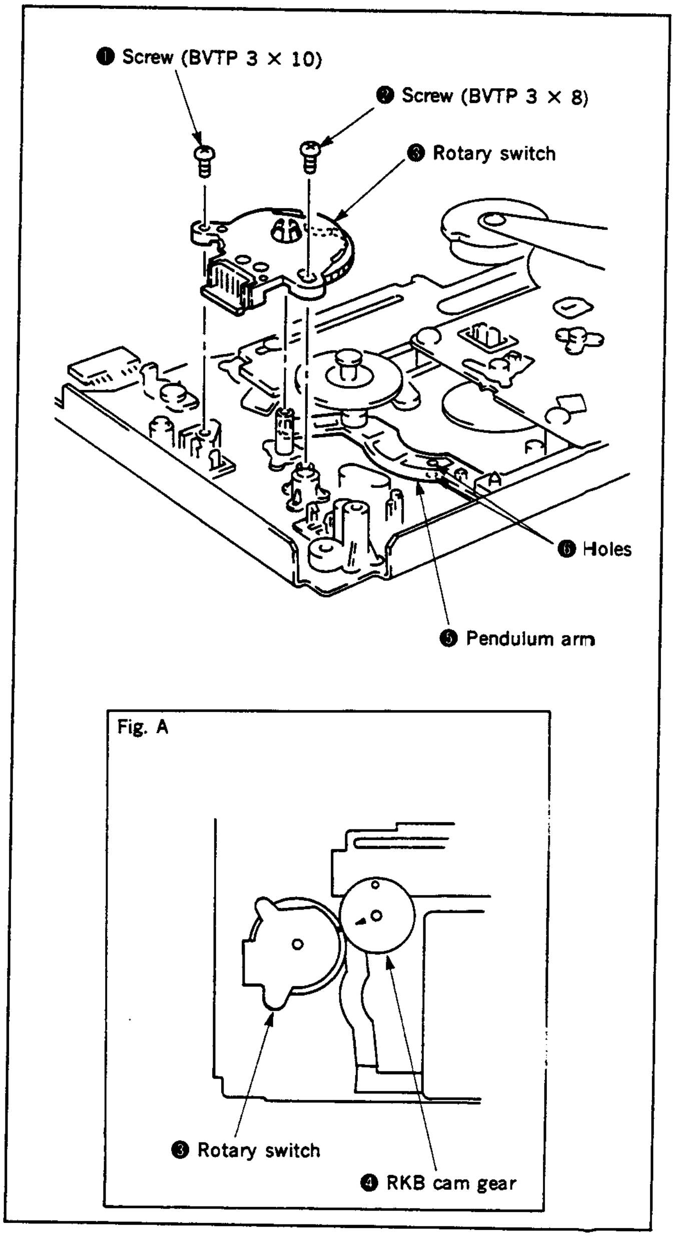

❶ Screw (BVTP 3 × 10)
❷ Screw (BVTP 3 × 8)
❸ Rotary switch
❻ Holes
❺ Pendulum arm
Fig. A
❸ Rotary switch
❹ RKB cam gear

Fig. 3-30.

3-25. RKB CAM GEAR (Fig. 3-31)

1) Remove the adjuster arm ass'y. (Refer to 3-22.)
2) Remove washer 2 ❶, then pull out the RKB cam gear ❷.

[Precautions on remounting]

- When the limiter arm ❸ is pushed in the direction of the arrow, the pin must fit into the notch on the RKB cam gear ❷.
- The ■ mark on rotary switch ❺ must match up with the ◀ mark on the RKB cam gear ❷ as shown in Fig. A.
- Apply 1/2 drop of lubricant to shaft ❻.
- Match up the holes ❹ on the RKB cam gear ❷ and the mode slide plate.

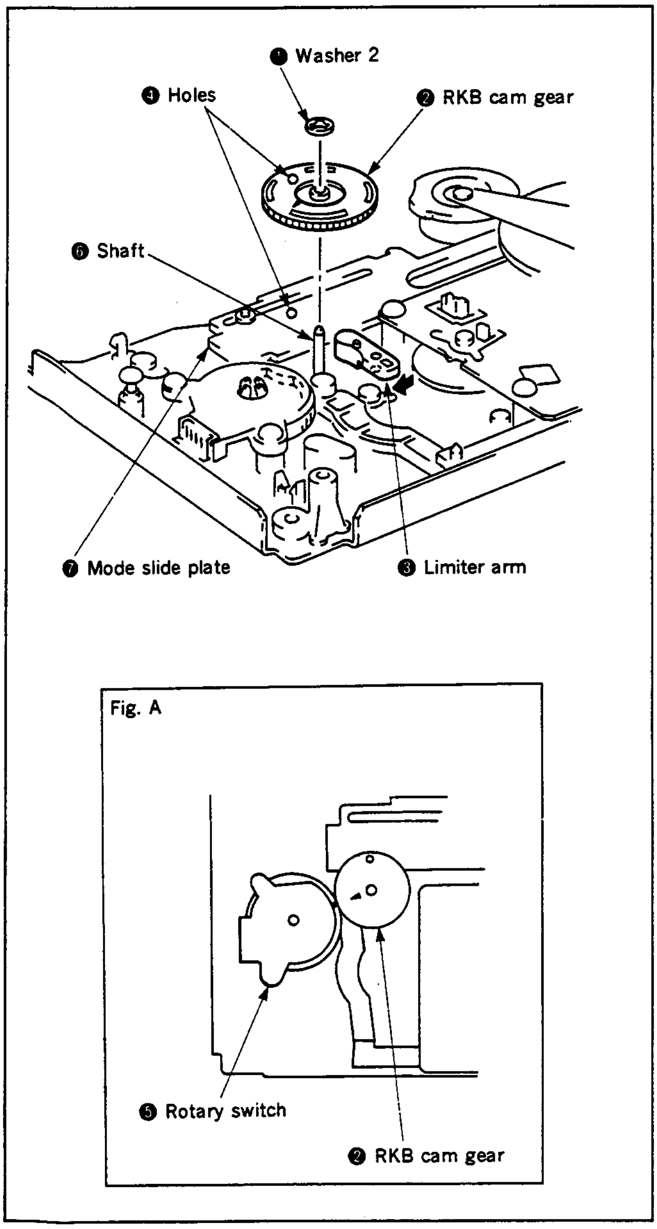

❶ Washer 2
❹ Holes
❷ RKB cam gear
❻ Shaft
❼ Mode slide plate
❸ Limiter arm
Fig. A
❺ Rotary switch
❷ RKB cam gear

Fig. 3-31.

3-26. SUB-CHASSIS ASS'Y (Fig. 3-32)

1) Remove the reel lock release arm and REW gear. (Refer to 3-15.)
2) Remove the pendulum arm ass'y. (Refer to 3-19.)
3) Remove the adjuster arm ass'y. (Refer to 3-22.)
4) Remove the three screws ❶, then remove sub-chassis ass'y ❷.

[Precautions on remounting]

- The switching arm ❸ must be switched in the direction of the arrow.
- The screws must be fastened in order of a, b and c.
- Mount the sub-chassis carefully so as not to damage the gear.
- The corner edge of the lug terminal ❹ must fit into the gap between the chassis ass'y ❷ and mechanism chassis.

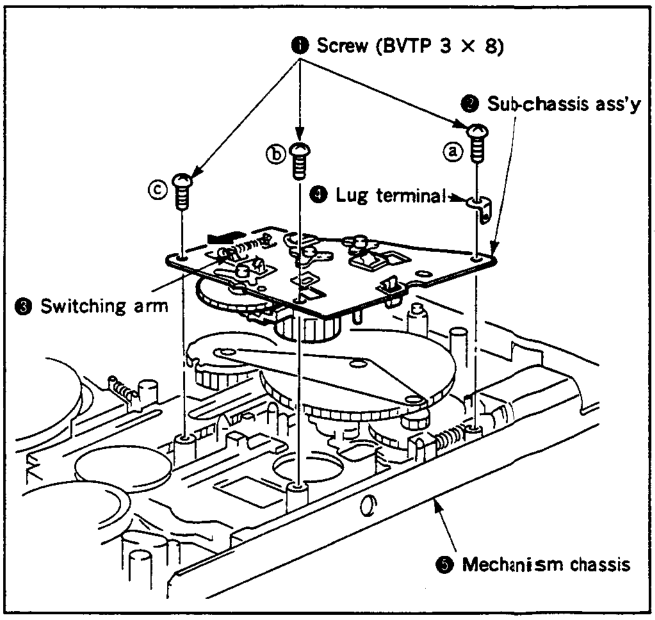

❶ Screw (BVTP 3 × 8)
❷ Sub-chassis ass'y
ⓒ
ⓑ
ⓐ
❹ Lug terminal
❸ Switching arm
❺ Mechanism chassis

Fig. 3-32.

3-27. PENDULUM SLIDE PLATE, PENDULUM ARM (Fig. 3-33)

1) Remove the rotary switch. (Refer to 3-24.)
2) Remove the RKB cam gear. (Refer to 3-25.)
3) Remove the sub-chassis ass'y. (Refer to 3-26.)
4) Disengage the two claws ❶, then pull out the pendulum slide plate ❷.
5) Unhook the spring ❸.
6) Disengage the claw ❹, then pull out pendulum arm ❺.

[Precautions on remounting]

○ The shaft ❻ must fit into hole ❼.

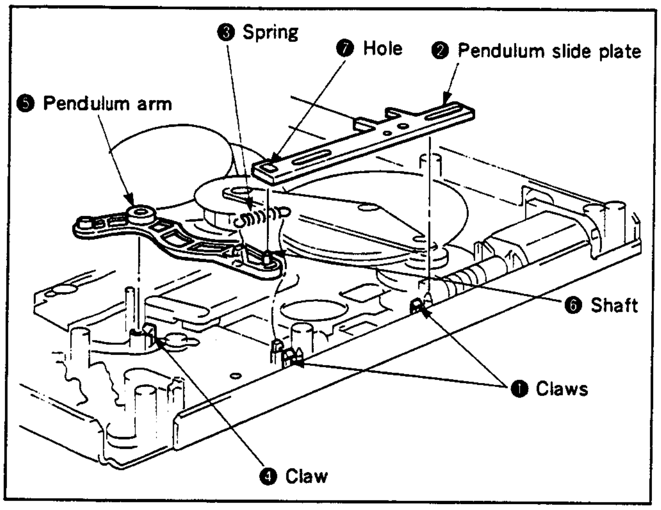

❸ Spring
❼ Hole
❷ Pendulum slide plate
❺ Pendulum arm
❻ Shaft
❶ Claws
❹ Claw

Fig. 3-33.

3-28. THE LIMITER ARM AND LIMITER SLIDE PLATE (Fig, 3-24)

1) Remove the RKB cam gear. (Refer to 3-25.)
2) Remove the sub-chassis. (Refer to Fig. 3-26.)
3) Disengage the claw ❶, then pull out the limiter arm ❷.
4) Disengage the two claws ❸, then pull out the limiter slide plate ❹.

[Precautions on remounting]

○ The shaft ❺ must fit into the hole ❻.

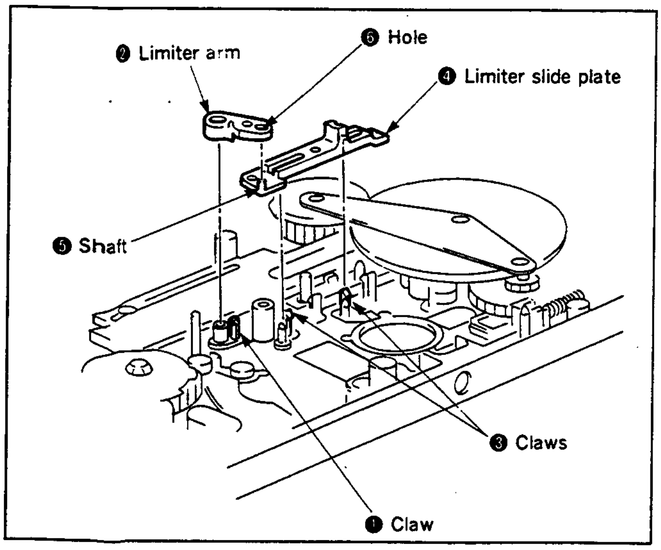

❷ Limiter arm
❻ Hole
❹ Limiter slide plate
❺ Shaft
❸ Claws
❶ Claw

Fig. 3-34.

3-29. CAM MOTOR (Fig. 3-35)

1) Remove the sub- chassis ass'y. (Refer to 3-26.)
2) Disengage the six claws ❶, then remove the cam motor ❷ and worm gear ❸.

[Precautions on remounting]

○ Check the meshing of cam motor ❷ and worm gear ❸.

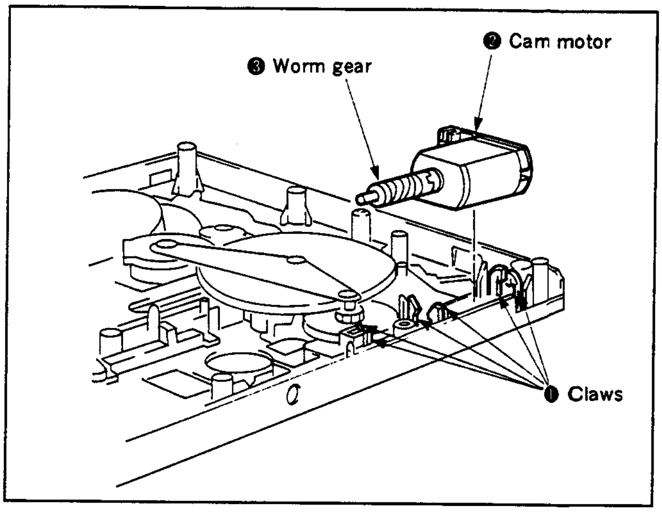

❷ Cam motor
❸ Worm gear
❶ Claws

Fig. 3-35.

3-30. CAM GEAR (Fig. 3-36)

1) Remove the three washers 2 ❶, then pull out the cam gear holder ❷.
2) Pull out the cam gear ❸.

[Precautions on remounting]

○ Match up the right loading gear ass'y, the tension regulator arm, the S take-up arm, the work wheel, the brake arm and the mode slide plate with respective holes ❹ to ❾ on the chassis in that order.

○ Match up the hole ❿ on the mode slide plate with the hole ❿ in cam gear ❸.

○ Apply 1/2 drop of lubricant to the shaft ⓫.

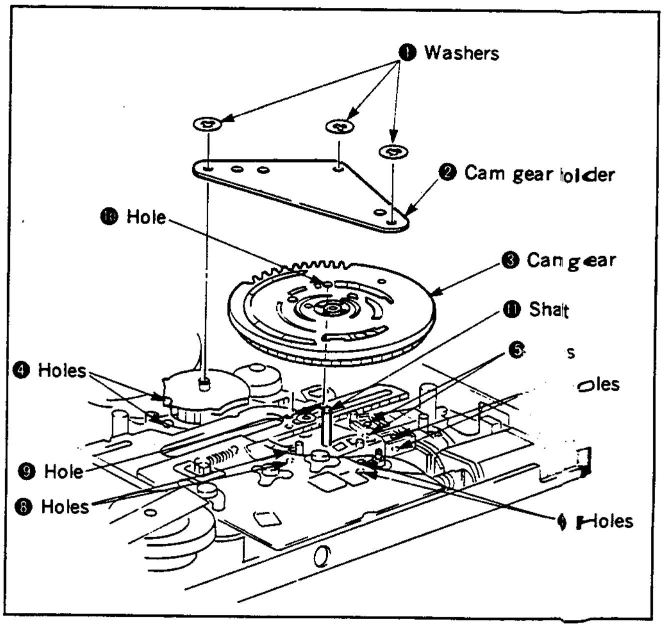

❶ Washers
❷ Cam gear holder
❿ Hole
❸ Cam gear
⓫ Shaft
❺ s
oles
❹ Holes
❾ Hole
❽ Holes
Holes

Fig. 3-36.

3-31. TENSION REGULATOR ARM, S TAKE-UP ARM (Fig. 3-37)

1) Remove the cam gear. (Refer to 3-30)
2) Disengage the claw ❶, then remove the tension regulator arm ❷.
3) Remove the end of the spring ❸ from the S take-up arm ❹.
4) Disengage the claw ❺, then pull out S take-up arm ❹.

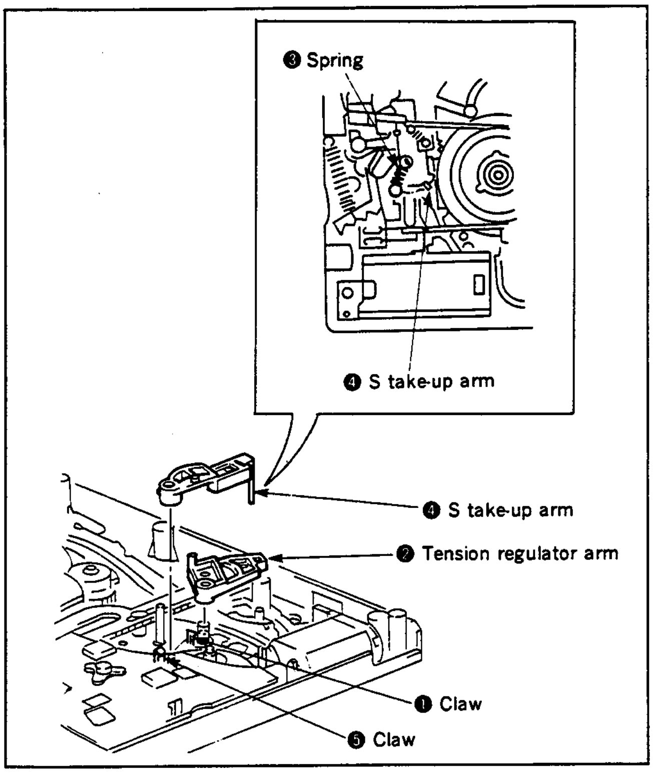

❸ Spring
❹ S take-up arm
❹ S take-up arm
❷ Tension regulator arm
❶ Claw
❺ Claw

Fig. 3-37.

3-32. MODE SLIDE PLATE, RVS RELAY GEAR (Fig. 3-38)

1) Remove the RKB cam gear. (Refer to 3-25.)
2) Remove the cam gear. (Refer to 3-30.)
3) Remove the two washers 2 ❶.
4) Turn the CAP brake ❷ in the direction of the arrow, then pull out mode slide plate ❸.
5) Pull out the RVS relay gear ❹.

[Precautions on remounting]

- ○ Match up the hole ❺ on the RVS relay gear ❹ with hole ❺ in the chassis.
- ○ Match up the holes ❻ on the mode slide plate ❸ with holes ❻ in the chassis.
- ○ Apply 1/2 drop of lubricant to the shaft ❼.

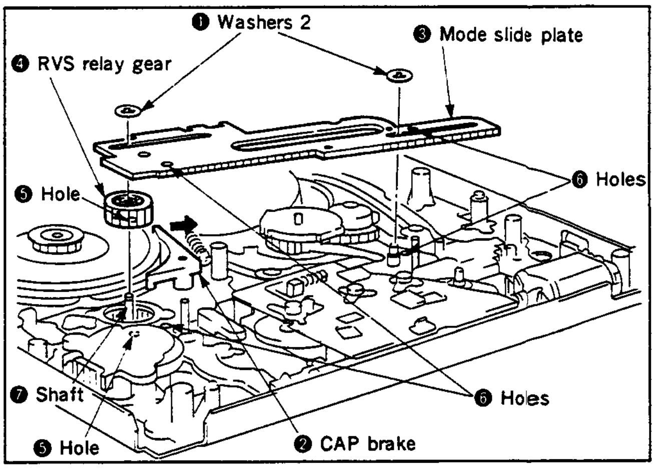

❶ Washers 2
❸ Mode slide plate
❹ RVS relay gear
❻ Holes
❺ Hole
❼ Shaft
❻ Holes
❺ Hole
❷ CAP brake

Fig. 3-38.

3-33. BRAKE ARM, BRAKE SLIDE PLATE (Fig. 3-39)

1) Remove the sub-chassis. (Refer to 3-26.)
2) Remove the cam gear. (Refer to 3-30.)
3) Disengage the claw ❶, then pull out the brake arm ❷.
4) Disengage the two claws ❸, then pull out the brake slide plate ❹.

[Precautions on remounting]

- ○ Insert the shaft ❺ into hole ❻.

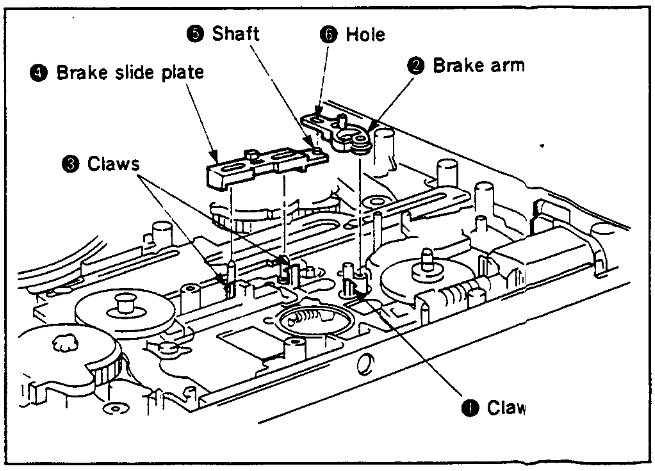

❺ Shaft
❻ Hole
❹ Brake slide plate
❷ Brake arm
❸ Claws
❶ Claw

Fig. 3-39.

3-34. RIGHT SHUTTLE, RIGHT LOADING GEAR ASSY'S (Fig. 3-40)

1) Remove the mode slide plate. (Refer to 3-32.)
2) Remove the plastic slider ❶, then pull out the right shuttle ass'y ❷.
3) Pull out the right loading gear ass'y ❸.

[Precautions on remounting]

- ○ Match up the ▲ mark on the right loading gear ass'y ❸ with the ▲ mark on the left loading gear ass'y ❹ as shown in Fig. A below.
- ○ Apply 1/2 drop of lubricant to the shaft ❺.
- ○ Do not hold on to the arm when pressing on the right loading gear ❸.
- ○ Clean the section of the right shuttle ass'y ❷ where the tape is attached.

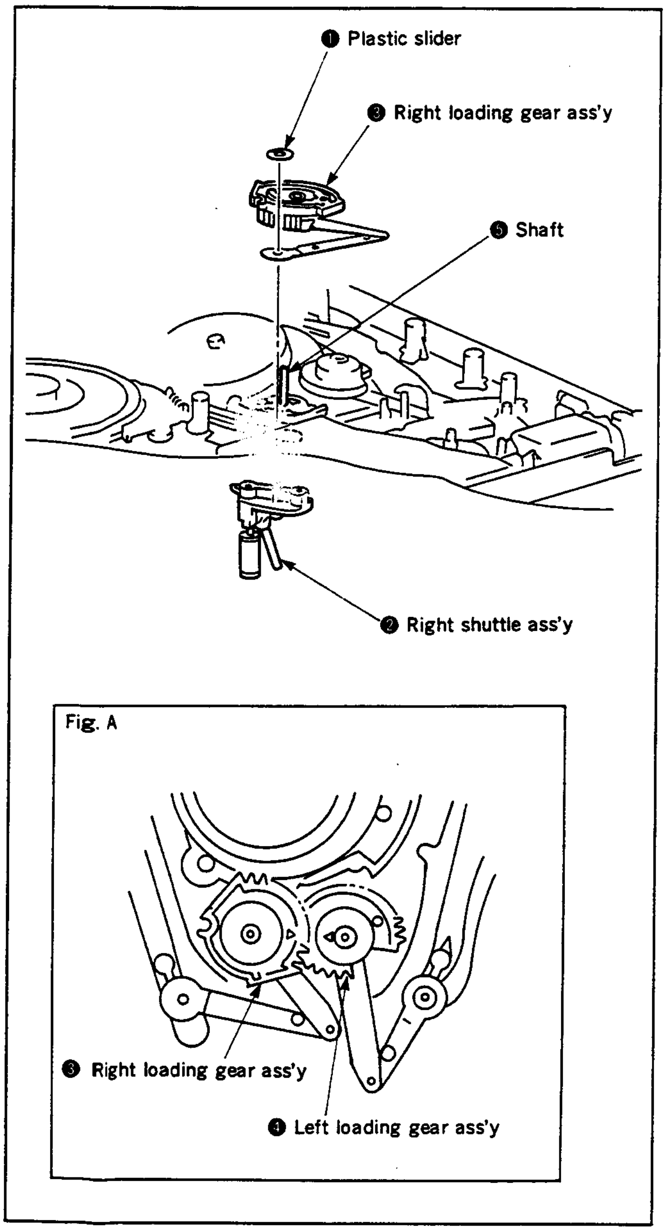

❶ Plastic slider
❸ Right loading gear ass'y
❺ Shaft
❷ Right shuttle ass'y
Fig. A
❸ Right loading gear ass'y
❹ Left loading gear ass'y

Fig. 3-40.

3-35. LEFT SHUTTLE ASS'Y, LEFT LOADING GEAR ASS'Y (Fig. 3-41)

1) Remove the right shuttle ass'y and right loading gear ass'y. (Refer to 3-34.)
2) Remove the plastic slider ❶, then pull out the left shuttle ass'y ❷.
3) Remove washer 2 ❸, then pull out the left loading gear ass'y ❹.

[Precautions on remounting]

- ○ Apply 1/2 drop of lubricant to shaft ❺.
- ○ The tension regulator arm ass'y ❻ and left shuttle ass'y ❷ must be positioned as shown in Fig. A below.
- ○ Do not hold on to the arm of the left loading gear ass'y ❹ when the left loading gear ass'y ❹ is pressed.
- ○ Clean the section of the felt shuttle ass'y ❷ where the tape is attached.

[Adjustments after replacement]

- ○ Perform tape path adjustments as described in 4-1.

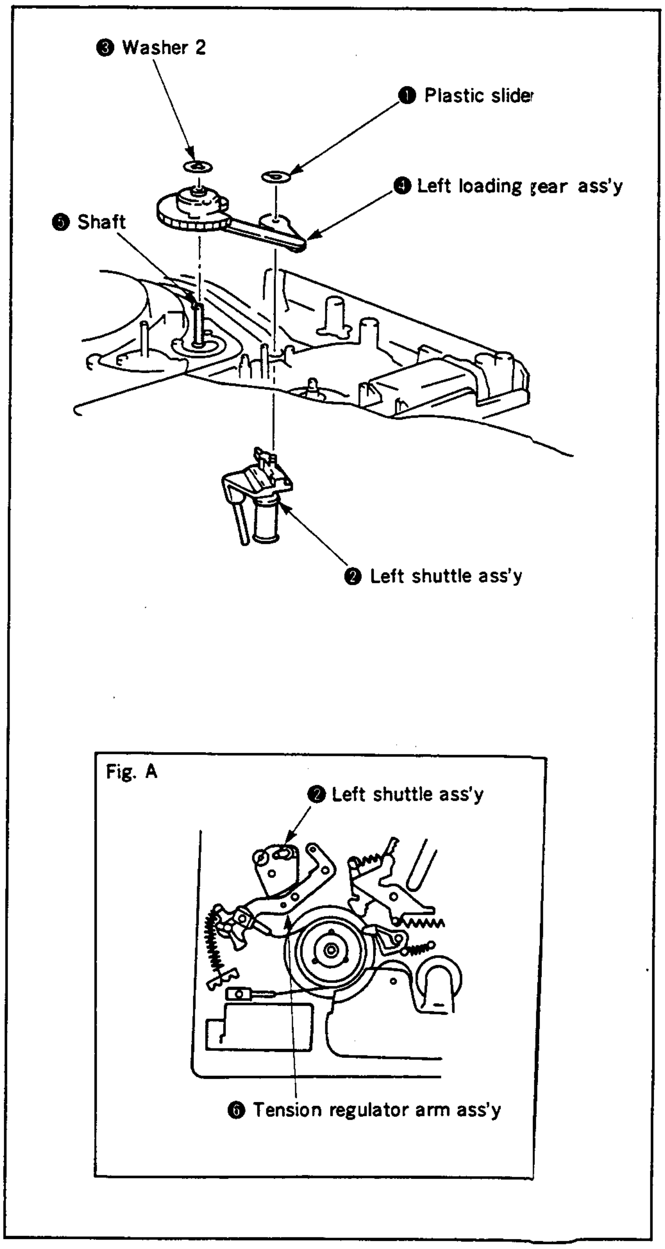

❸ Washer 2
❶ Plastic slider
❹ Left loading gear ass'y
❺ Shaft
❷ Left shuttle ass'y
Fig. A
❷ Left shuttle ass'y
❻ Tension regulator arm ass'y

Fig. 3-41.

3-36. C-ROLLER ARM ASS'Y, C-ROLLER RELEASE LEVER (Fig. 3-42)

1) Disengage the claw ❶, then pull out the C-roller arm ass'y ❷.
2) Unhook the end of the spring ❸ from the chassis.
3) Disengage the two claws ❹, then pull out the C-roller release lever ❺.

[Precautions on remounting]

○ Mount C-roller arm ass'y ❷ so that the hole ❻ on the C-roller arm ass'y ❷ fits into the boss ❼ on the C-roller release lever ❺.

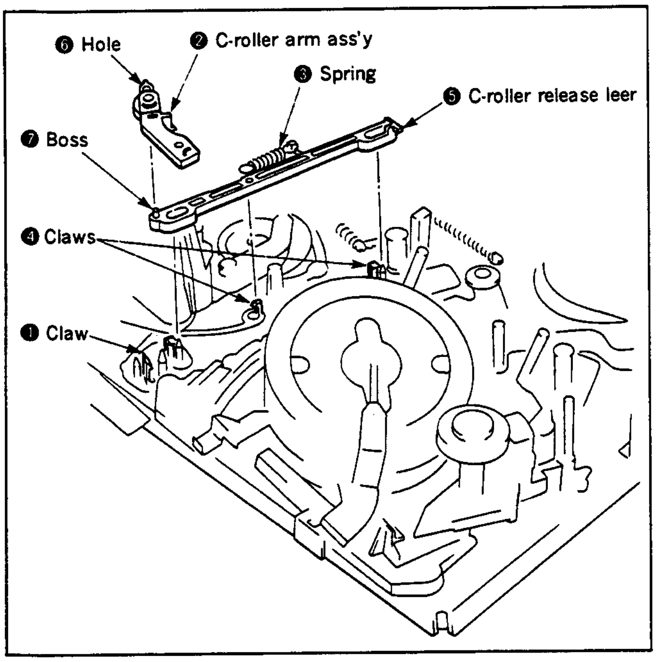

❻ Hole
❷ C-roller arm ass'y
❸ Spring
❺ C-roller release leer
❼ Boss
❹ Claws
❶ Claw

Fig. 3-42.

4. ADJUSTMENT

4-1. TAPE PATH ADJUSTMENT

The "Tape path" refers to the route of the tape from the supply reel disk to the take-up reel disc via the video heads. Each component part of the tape transport system, particularly the surface of parts which make direct contact with the tape must always be kept clean, free of dust, oil, scratches and so forth.

The tape path system is factory preadjusted. when parts of the tape transport system are replaced, be sure to make the required adjustments as precisely as possible in order to ensure stable tape transport.

4-1-1. Tension regulator position/tension adjustment (Fig. 4-1.)

Purpose: Stabilizes contact of the video head and the tape to maintain the tension of the tape so that it feeds at a constant level.

- **Position adjustment**

Mode	Threading is completed without a cassette loaded.' (Refer to section 1-2.)
Adjustment locations	Tension band holder

[Adjustment method]

1) Allow the unit to go through the threading procedure without a cassette loaded.
2) Set the VTR unit to playback, then turn the tension band adjuster lever so that the gap between guide No. 0 and tension arm is within 4.5±0.4mm. *(Set the unit to playback without a cassette loaded.)
3) After adjustment, go through the loading procedure once more without a cassette loaded, then check the position of the tension arm.

- **Tension adjustment**

Mode	Playback
Measuring instrument/tool	Torque cassette
Adjustment locations	Position for hooking the tension spring
Specification	28 to 34 g•cm

[Adjustment method]

1) Playback the torque cassette.
2) Check that the center value deviation reading on the torque cassette meets with the standards.
3) When the reading is higher than the standards: Move the spring toward direction Ⓐ.
   When the reading is less than the standards: Move the spring toward direction Ⓑ.

Note: Move the spring to the tension spring hook position and recheck the tension arm position. If the arm position is misaligned, adjust the position and tension of the tension arm.

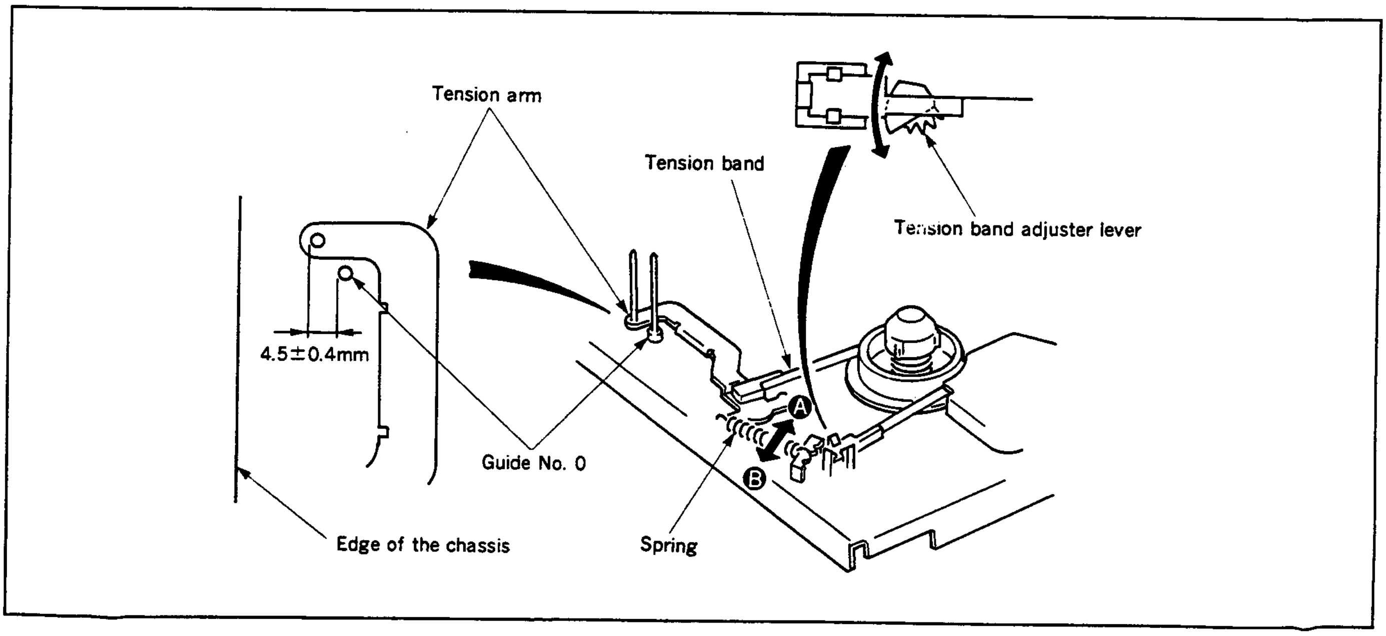


Fig. 4-1.

4-1-2. Height adjustment of the guide roller No. 2 (Fig. 4-2)

Mode	Playback
Tool	Blank tape
Adjustment locations	Guide roller height adjuster screw

[Adjustment method]

1) Load a new tape in the unit, then play it back.
2) Make sure that the lower flange of guide roller No. 2 does not curl up.
3) When the tape curls up : Turn the guide roller adjuster screw clockwise.
   When the tape does not fit into the lower flange : Turn the guide roller adjuster screw counter-clockwise.
4) After the above check, separate the tension arm from the tape, then re-attach it slowly. At this time, check if the tape curls up at the lower flange of the guide roller No. 2 and if the curl disappears within 2 seconds.
5) If curl does not disappear in two seconds : Turn the adjuster screw clockwise.
   If the tape does not curl up : Turn the adjuster screw counter-clockwise.

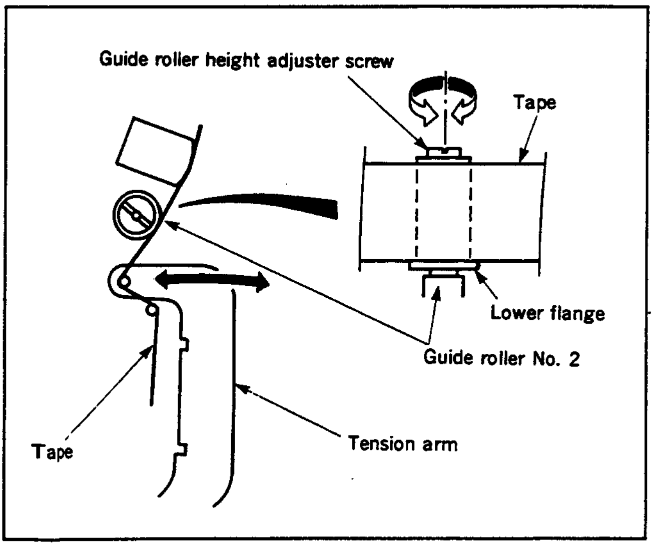


Fig. 4-2.

4-1-3. Height adjustment of guide roller No. 7 and the RVS arm (Fig. 4-3.)

Mode	Playback
Tool	Blank tape
Adjustment locations	Height adjuster nut

[Adjustment method]

1) Load the tape into the VTR and play it back, then adjust the height of the guide roller No. 7 so that the tape runs along the lower flange of guide roller No. 7.
2) If the guide roller is too low : Turn the height adjuster nut counter-clockwise.
   If the guide roller is too high : Turn the height adjuster nut clockwise.
3) Run the tape in REV, then adjust the height of the RVS arm so that the tape runs along guide roller No. 7.
4) If the tape gets caught in the upper flange of guide roller No. 7 : Turn the RVS arm height adjuster nut clockwise.
5) If the tape catches on the lower flange of guide roller No. 7 : Turn the RVS arm height adjuster nut counter-clockwise.

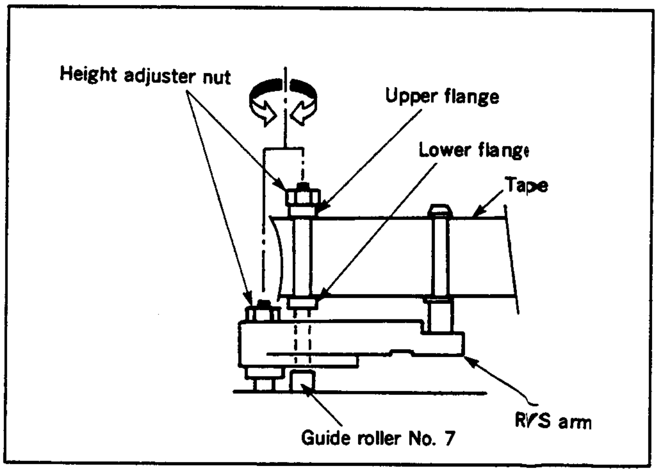


Fig. 4-3.

4-1-4. Height adjustment of guide rollers No. 3 and No. 6 (Fig. 4-4)

Mode	Playback
Signal	Hi-Fi alignment tape (Hi-Fi 400Hz)
Measuring instrument	Oscilloscope
Measuring point	CH-1: Connector PB RF pin for RF PC board check. CH-2: Connector RF SW P pin for RF PC board check.
Adjustment locations	Guide roller height adjuster screw.

[Adjustment method]

1) Tracking (playback): Turn off the auto tracking, then press the tracking buttons ▽ and △ simultaneously to set the tracking at the center position.
(If adjustment is made after the drum is replaced, the tracking must be set at the max. Rf output position.)
2) Height adjuster screw: Even out the RF output waveforms.
3) Press the tracking buttons (playback), ▽ and △ alternately.
4) Check that RF output drops the same amount at the front and rear edges.

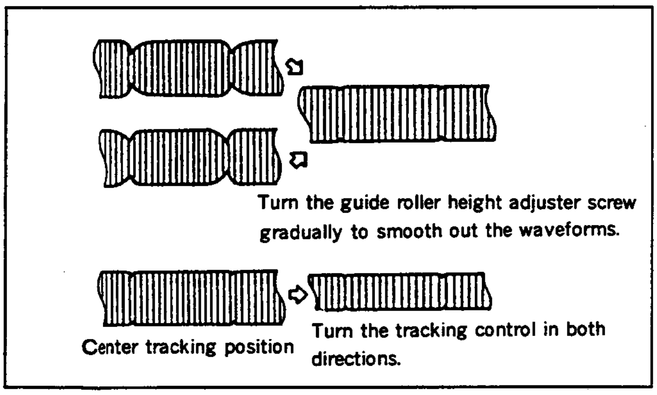

Turn the guide roller height adjuster screw gradually to smooth out the waveforms.
Center tracking position
Turn the tracking control in both directions.

Fig. 4-4.

4-1-5. ACE head ass'y adjustment (rough adjustment) (Figs. 4-5 and 4-6)

Purpose: Allows the tape to make even contact with the head for recording and playback of the specified track.

Mode	Playback
Tool	Blank tape
Adjustment locations	Height adjuster nut, tilt adjuster screw

[Adjustment method]

1) Mount the ACE head ass'y. At this time, adjust the height so that the height of guide flange No. 7 matches the level of the lower edge of the control head.
2) Remove the adjustment tool and load a new tape, then set the unit for playback.
3) Check that the tape does not curl or raise up noticeably near the ACE head.
4) If the yape curls up or rarises noticeably, readjust the tilt adjuster screw, the azimuth adjuster screw and the height adjuster nut.
(The height of the ACE head should be adjusted so that the lower edge of the tape is approx. 0.1 to 0.15 mm from the control head.)
5) Perform precision adjustment.

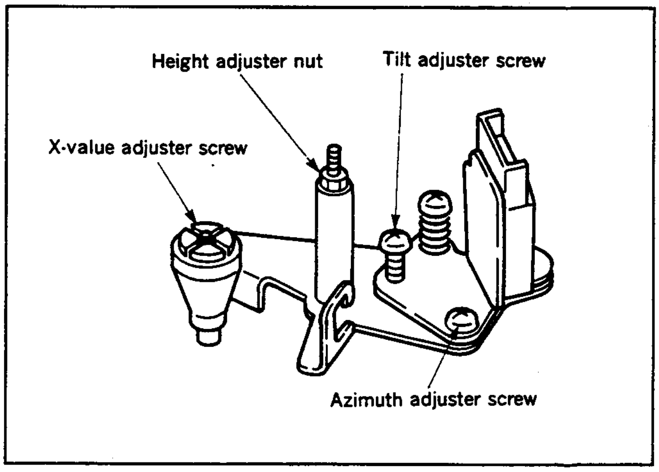

Height adjuster nut
Tilt adjuster screw
X-value adjuster screw
Azimuth adjuster screw

Fig. 4-5.

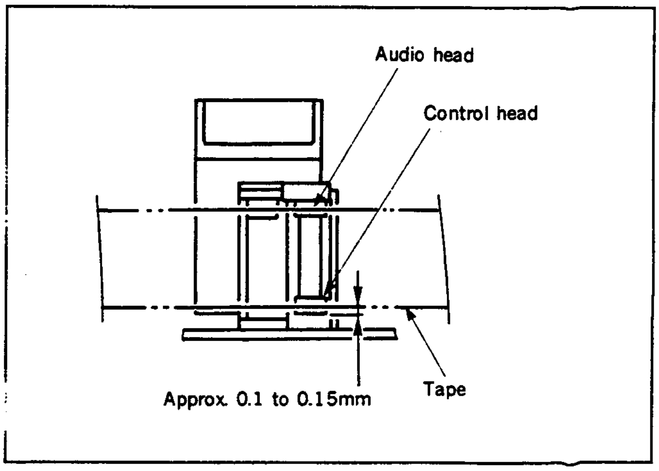

Audio head
Control head
Approx. 0.1 to 0.15mm
Tape

Fig. 4-6.

4-1-6. ACE head assembly adjustment (precision adjustment)

Mode	Playback
Signal	Alignment tape (JVC-MH-1 1KHz)
Measuring instrument	Oscilloscope
Measuring point	Audio output terminal
Adjustment locations	Azimuth adjuster screw Height adjuster nut Tilt adjuster screw

[Adjustment method]

1) Adjust the tilt adjuster screw in the FWD or REV mode so that the lower flange of guide No. 7 does not curl up or raise.
2) Alternately adjust the azimuth adjuster screw, the height adjuster nut, and the tilt adjuster screw to maintain even audio output at maximum with minimum deviation.

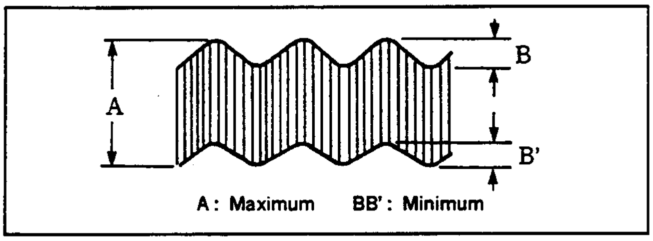

A
B
B'
A: Maximum BB': Minimum

Fig. 4-7.

4-1-7. X-value adjustment

Purpose: To obtain compatibility with other VTR.

Precaution: Be sure to perform the preset tracking adjustment before perform this adjustment. (Refer to the Service Guide.)
Turn off the auto tracking and set the VTR for manual tracking mode.

Mode	Playbadk
Signal	Hi-Fi alignment tape (Hi-Fi 400Hz), alignment tape (JVC-MH-1)
Measuring instrument	Oscilloscope
Measuring point	CH-1: Connector PB RF pin for RF PC board check. CH-2: Connector RF SW P pin for RF PC board check. (Check with the CHA head)
Adjustment locations	X-value adjuster screw

[Adjustment method]

- **Adjustment by Hi-Fi alignment tape**

  When the tracking is set at the center position (by pressing the ▽ and △ keys simultaneously), adjust the RF output to maximum.

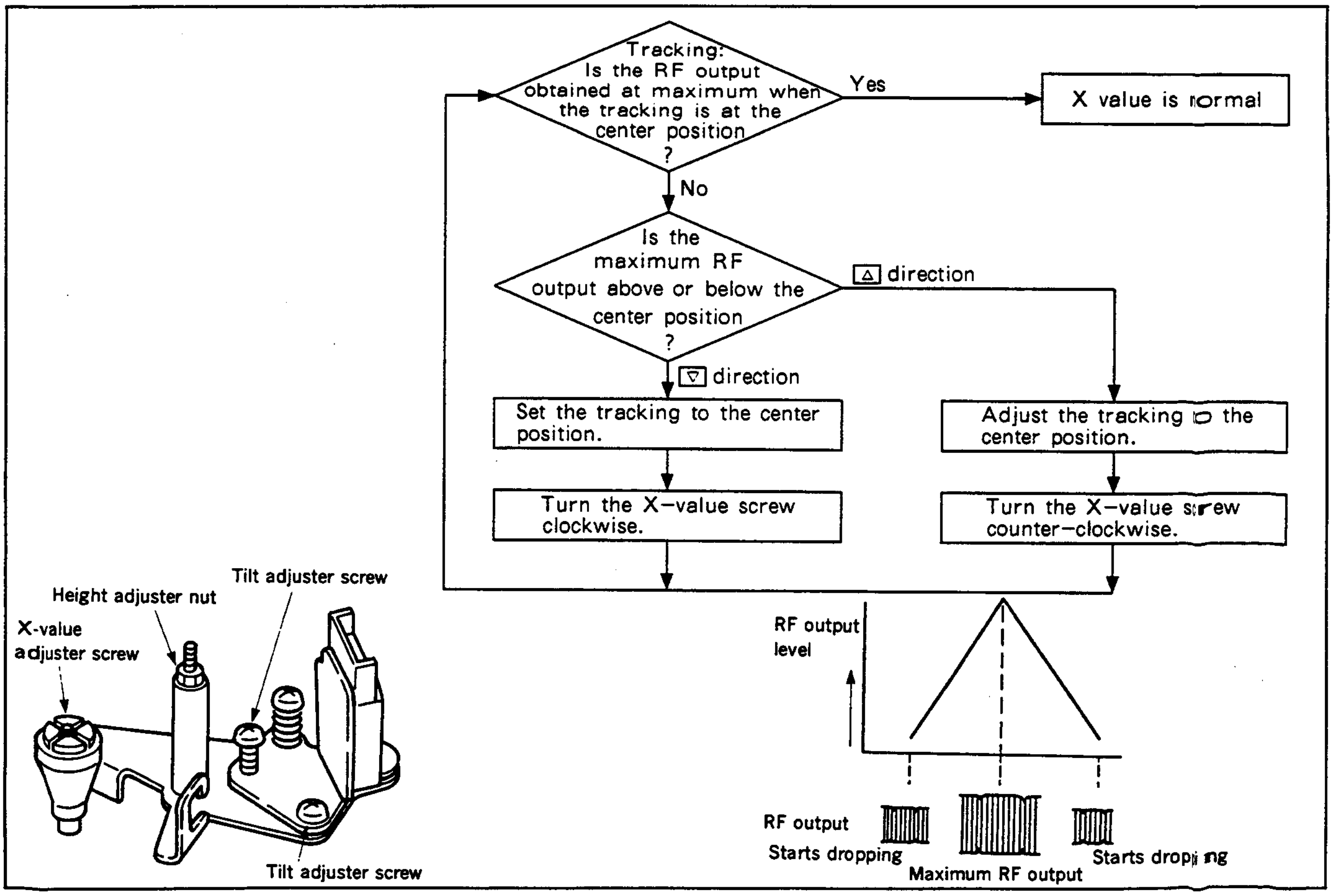

Tracking:
Is the RF output obtained at maximum when the tracking is at the center position ?
Yes
X value is normal
No
Is the maximum RF output above or below the center position ?
△ direction
▽ direction
Set the tracking to the center position.
Turn the X-value screw clockwise.
Adjust the tracking to the center position.
Turn the X-value screw counter-clockwise.
Height adjuster nut
Tilt adjuster screw
X-value adjuster screw
Tilt adjuster screw
RF output level
RF output
Starts dropping
Maximum RF output
Starts dropping

Fig. 4-8.

- **Adjustment by Alignment tape (JVC-MH-1)**
  Adjust the X-value adjuster screw so that maximum RF output is obtained and also that the RF output drops to the same position on pressing the respective ▽ and △ buttons while the tracking is set at the center position.

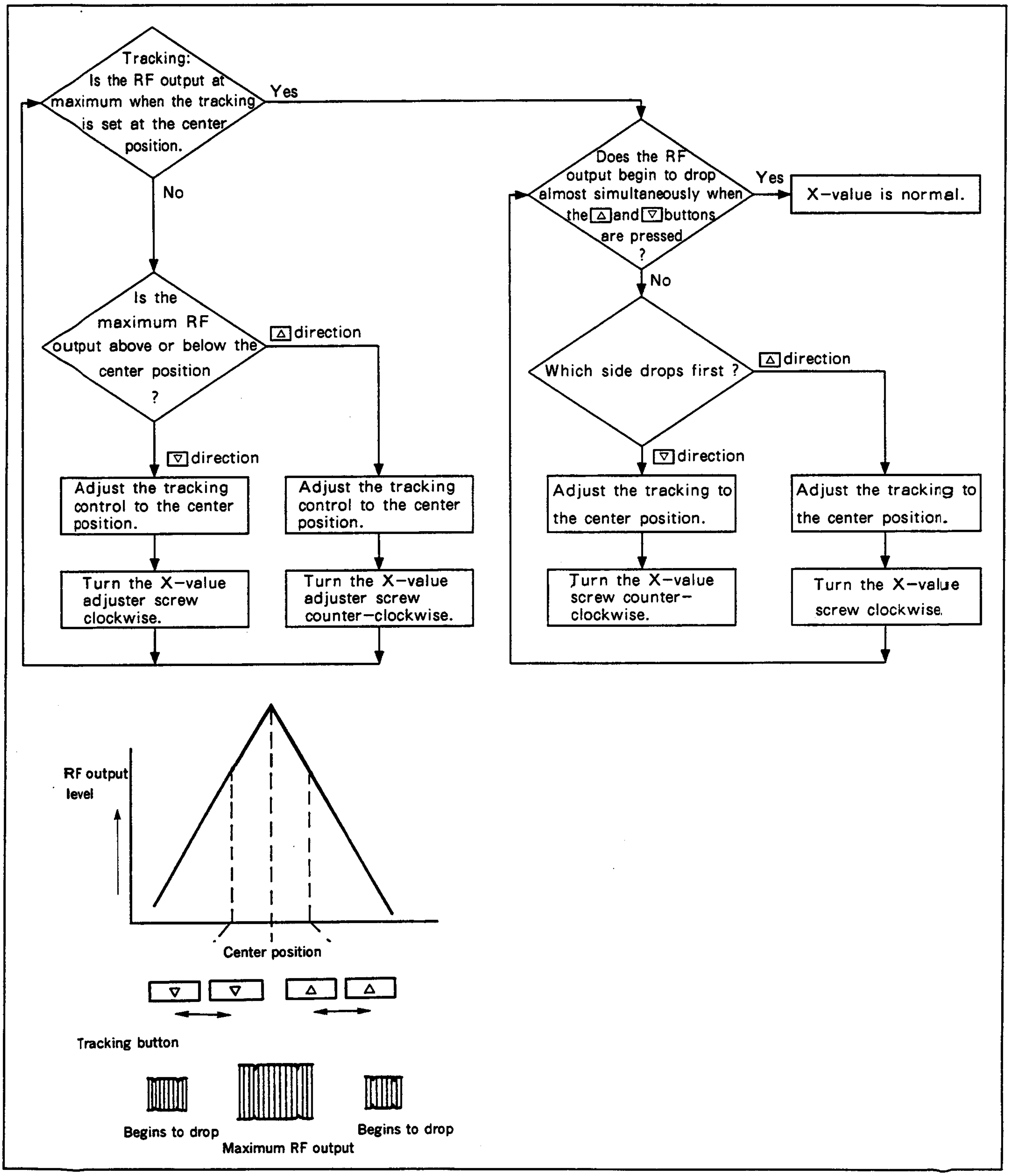

Tracking: Is the RF output at maximum when the tracking is set at the center position.
Yes
No
Is the maximum RF output above or below the center position ?
△ direction
▽ direction
Adjust the tracking control to the center position.
Turn the X-value adjuster screw clockwise.
Adjust the tracking control to the center position.
Turn the X-value adjuster screw counter-clockwise.
Does the RF output begin to drop almost simultaneously when the △ and ▽ buttons are pressed ?
Yes
X-value is normal.
No
Which side drops first ?
△ direction
▽ direction
Adjust the tracking to the center position.
Turn the X-value screw counter-clockwise.
Adjust the tracking to the center position.
Turn the X-value screw clockwise.
RF output level
Center position
▽
▽
△
△
Tracking button
Begins to drop
Maximum RF output
Begins to drop

Fig. 4-9.

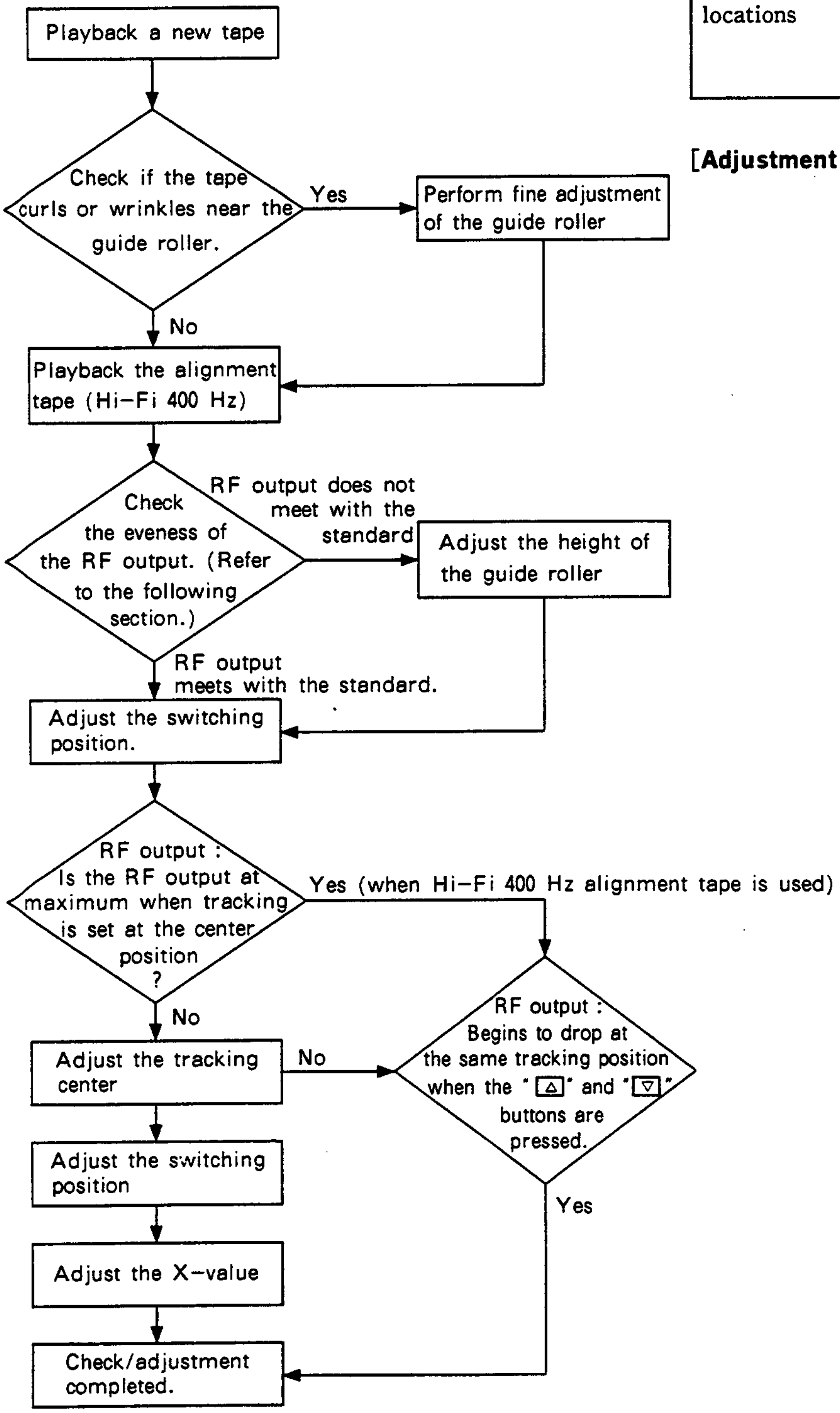
4-1-8. Adjustments after replacing the drum (video head)

Purpose: Co-relative height, X-value and other factors of the drum will deviate from those of the guide roller. If the drum is replaced properly, these deviations are extremely small.

Precaution: Turn off the auto tracking and set the manual tracking mode.

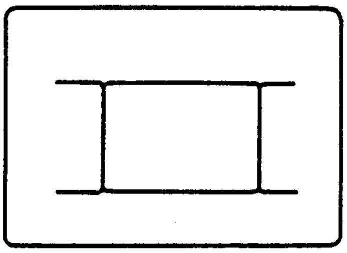
Mode	Playback
Signal	Alignment tape (JVC-MH-1), blank tape
Measuring instrument	Oscilloscope
Measuring point	CH-1: Connector PB RF pin for RF PC board check. CH-2: Connector RF SW P pin for RF PC board check.
Adjustment locations	Guide roller (refer to 4-1-5.) Switching position, Tracking preset, SP delay mono-multi, X-value (refer to 4-1-8) } (Refer to the Service Guide)

[Adjustment method]

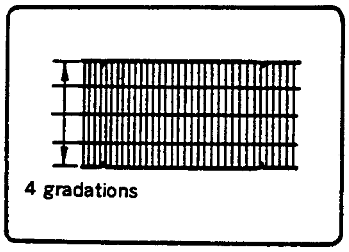

Playback a new tape
Check if the tape curls or wrinkles near the guide roller.
Yes
Perform fine adjustment of the guide roller
No
Playback the alignment tape (Hi-Fi 400 Hz)
Check the eveness of the RF output. (Refer to the following section.)
RF output does not meet with the standard
Adjust the height of the guide roller
RF output meets with the standard.
Adjust the switching position.
RF output : Is the RF output at maximum when tracking is set at the center position ?
Yes (when Hi-Fi 400 Hz alignment tape is used)
No
Adjust the tracking center
No
RF output : Begins to drop at the same tracking position when the "△" and "▽" buttons are pressed.
Yes
Adjust the switching position
Adjust the X-value
Check/adjustment completed.

[Checking the eveness and fluctuation of the RF output]

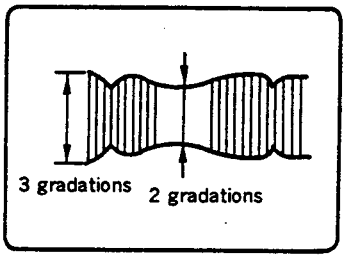
1) Set the RF output to the maximum level using the tracking buttons.



2) Perform fine adjustment of the voltage level range of the oscilloscope, then adjust the RF output deviation to within 4 gradations.



3) Press the tracking buttons and adjust the maximum amplitude of the RF output to within 3 gradations.
4) At this time, check if the minimum amplitude is more than 2 gradations.



5) Check that the RF output fluctuation between minimum and maximum levels is within 13%.

4-1-9. Checking the tension and torque

Purpose: To check that the tension, torque and compression force of the tape take-up section and mobile sections to ensure smooth tape run and achieve standard VTR performance.
If the tape transport is not smooth or problems occur in relation to the tape transport speed, perform the following check.

Mode	Each operation mode without loading a cassette tape. (Refer to section 1-3.)
Measuring instrument	Torque gauge, Torque gauge adapter

Item	VTR operation mode	Reel to be measured	Measurement value
Main brake torque	Stop	Supply and take-up reels	170g•cm or more
Review torque	Review	Supply reel	180±30g•cm (using the torque cassette)
Take-up torque	Playback	Take-up reel	80 to 140g•cm (using torque cassette)
Back tension torque	Rewind	Take-up reel	4 to 25 g•cm

[Check method]
Measure the torque using the torque gauge and torque gauge adaptor with the torque gauge fixed.

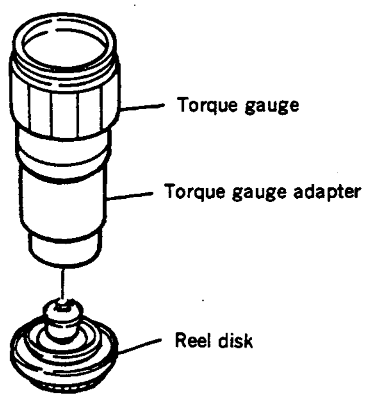


Fig. 4-13.

English
8904-89-1

9-972-816-11

Sony Corporation
Home Video Group

© 1989. 8

Published by A/V Engineering Service Dept.

Printed by: Schaltungsdienst Lange, Berlin (GERMANY)